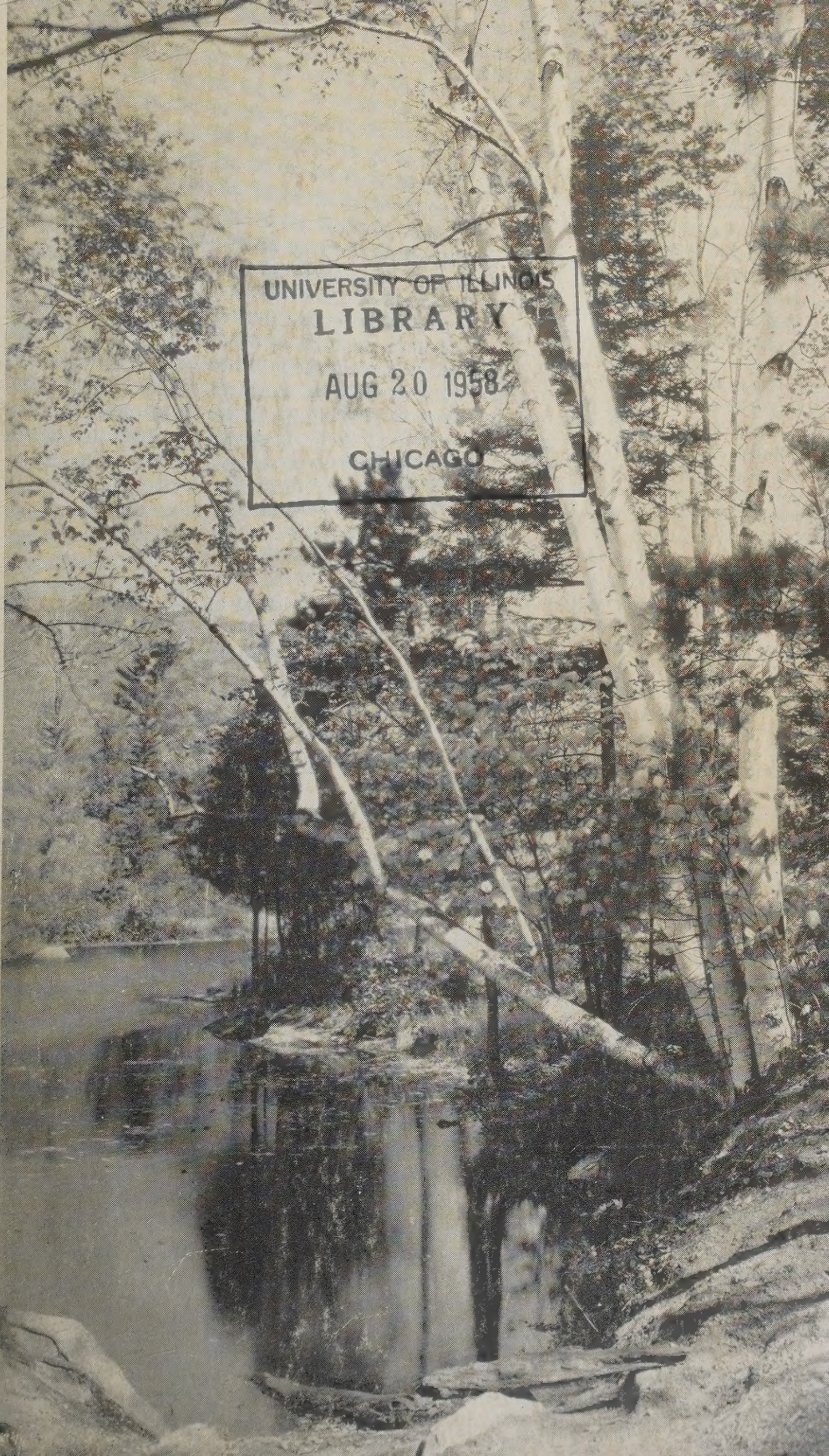

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MAGAZINE NUMBER 126

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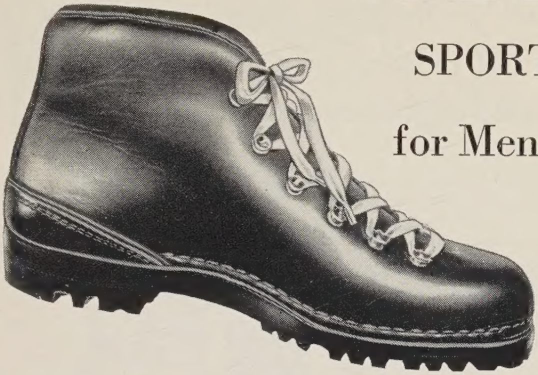

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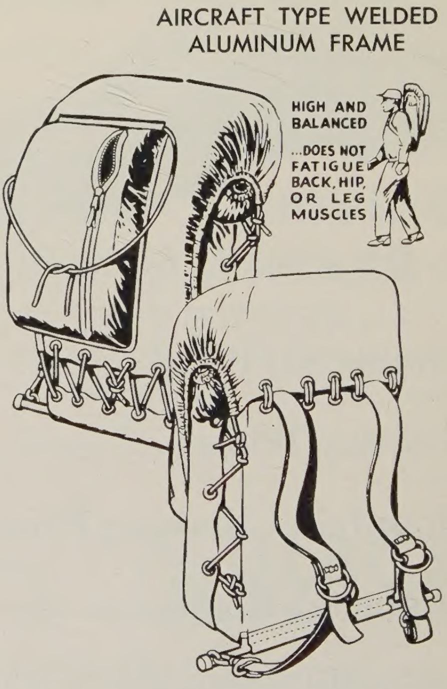
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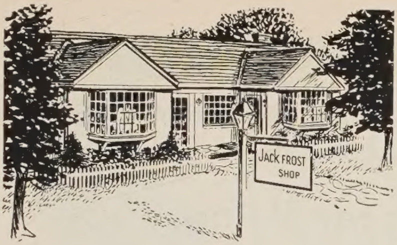

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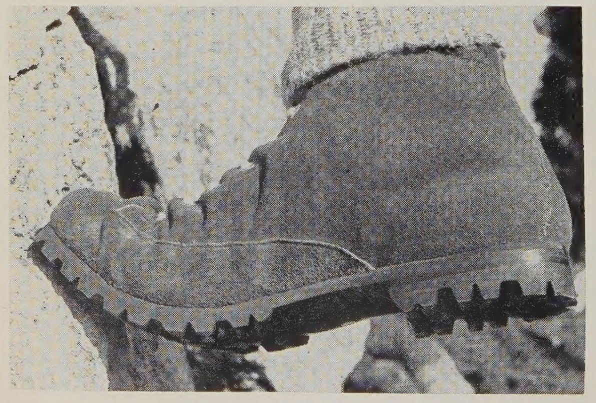

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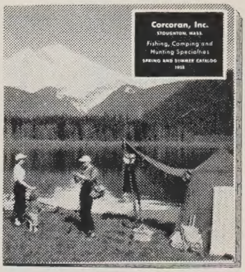
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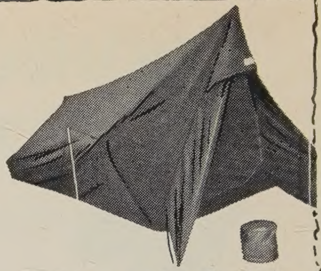

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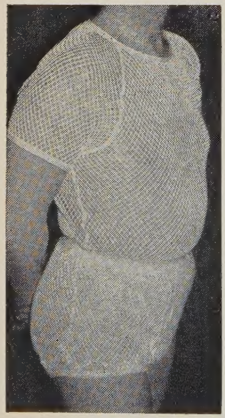

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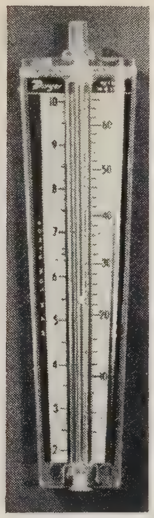

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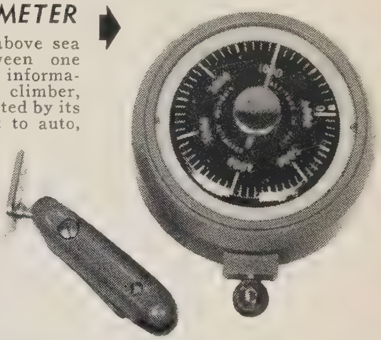

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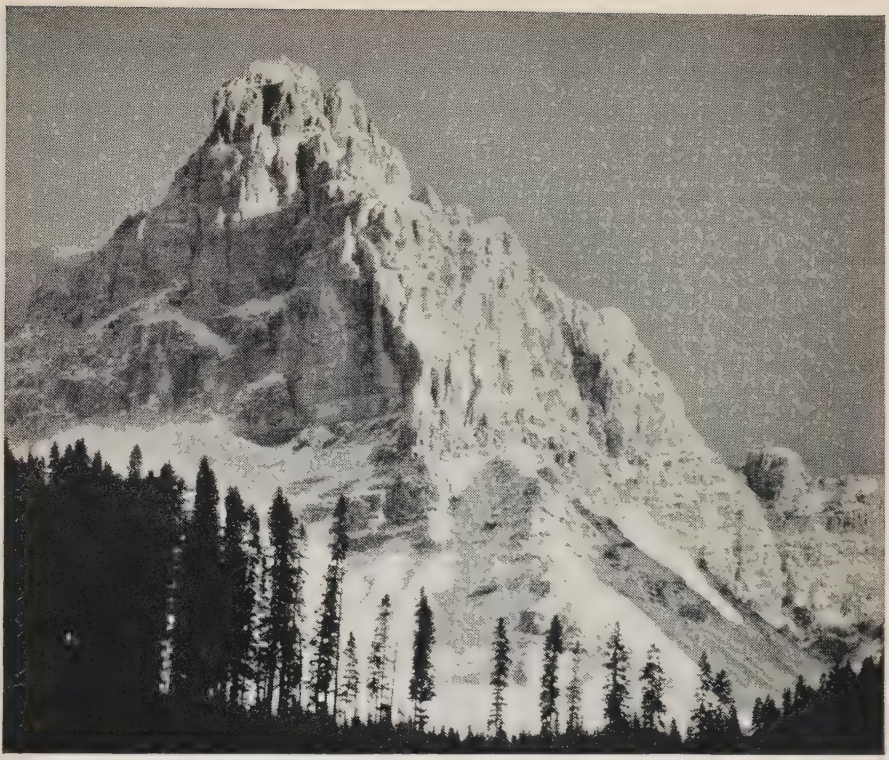

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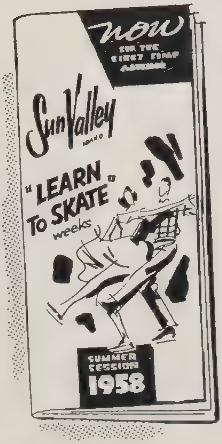

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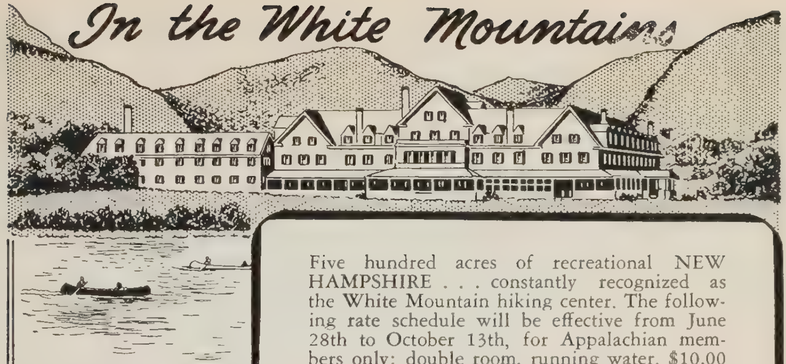

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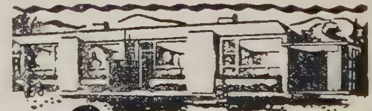

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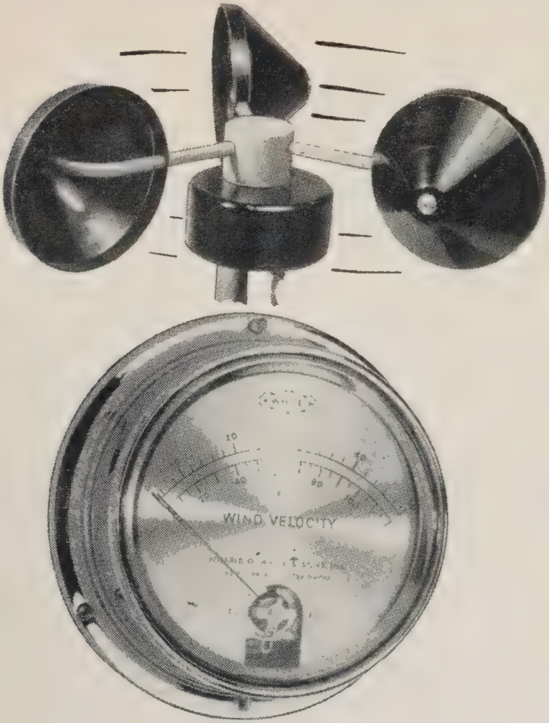

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☐ Rock Climbing
☐ Trail Work
☐ Junior (Ages 12-17)
☐ Other Activities (Please State)

APPALACHIA

JUNE 15, 1958 MAGAZINE NUMBER 126

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Warren F. Hale

THE MARLOW FIRE OF 1941, PART OF A FIVE-MILE FRONT

FIGHTING FOREST FIRES IN NEW HAMPSHIRE

by Warren F. Hale

For a portion of each summer during the years 1895 to 1903 my grandparents took me with them for a vacation in the White Mountains at some one of the Jackson hotels. We went by train and upon arrival at Glen Station were met by all types of horsedrawn vehicles, each one well marked in gilt letters as to just where it was ready to take passengers and trunks. Almost every summer we noticed the smoke from forest fires started from lumbering operations and for days the sun shone red through clouds of smoke. These fires burned for weeks until rain came.

There have always been forest fires in New Hampshire during dry weather. In the early days of settlement the forests were cut and purposely burned in order to provide open spaces for the growing of agricultural crops and feed for sheep and cattle. Timber had little value except to furnish logs, lumber and fuel for homes. The facts in regard to big fires in early times are difficult to ascertain. But we know that Monadnock burned about the year 1820; that Mt. Chocorua, Mt. Cardigan and other bald peaks were once covered with forest.

The early railroads built throughout the State were powered by wood-burning locomotives. (It is reported that 72,000 cords of wood were cut and delivered to the Concord yard for the railroads in 1872. More than 120,000 cords were consumed by all branches and it is estimated that 4,100 acres were cleared each year to provide cordwood for the locomotives.) Sparks from these locomotives frequently started fires during the spring and early summer.

In 1888 a forest fire in Zealand Notch burned more than 12,000 acres and consumed two million feet of spruce logs. The Ammonoosuc valley between Twin Mountain and Crawford Notch had been cut over and vast portions were burned. Fires in Kilkenny and Berlin burned over 18,000 acres during the spring of 1903. In northern New Hampshire burned-over land resulting from fires which occurred up through the season of 1903 aggregated over 137,000 acres. Public opinion was aroused and the summer visitors became greatly alarmed about this wholesale cutting and denuding of the White Mountains, followed by un-

---

Warren F. Hale, a member of the Club since 1930, graduated from Dartmouth in 1908 and took the degree of M.F. at Harvard in 1910. In 1918 he joined the New Hampshire Forestry Department and continued with it until 1953, rising to be Assistant State Forester. Upon his retirement he was given a certificate of merit by Governor Gregg. He has led a very active outdoor life, with much foreign travel, including a trip around the world. Several articles in Appalachia have resulted from these travels.

controlled fires. At that time New Hampshire had no forestry department to organize the towns in an attempt to handle these fires. It was in 1909 that the Legislature appropriated funds for planning a system to prevent and suppress forest fires. This was the most important work that the first State Forester attempted. Progress was slow; politicians feared that an organization of firewardens and deputies, set up in each town of the State, could be used for political purposes. Still, although many fires occurred every dry spring, there was no wholesale burning as in the past.

In 1903 the New Hampshire Legislature had passed an enabling act for Congress to establish a national forest reserve. Not until 1911 did Congress take favorable action, when it passed the Weeks Act for purchasing tracts of forest land in the White Mountains and setting them aside for public use. Somewhat later three areas were acquired, totaling 75,000 acres; these were in the Wild River valley, on the north slopes of the Presidential Range, and on Mt. Garfield in Franconia and Bethlehem. Since that time the acreage has been greatly increased; including a small area in Maine it now amounts to more than 700,000 acres. The National Forest Supervisors and the State Foresters, with their respective staffs, have always cooperated closely in the many problems of forest-fire prevention.

On March 30, 1910, the owners of large timberlands in northern New Hampshire met at Gorham and shortly afterward formed an organization known as the New Hampshire Timberland Owners Association. This group assessed their forest holdings, which later totaled more than 800,000 acres, at one cent per acre and in that summer began patrolling wood-roads and trails to warn the campers and others about fire hazards. As the State Forestry Commission had then no funds available for building lookout stations this association established crude towers, each with a map and a single wire for telephone, on several mountains: Magalloway, Signal, Cambridge Black, Sugarloaf, Pine and Osceola. Before that time a station, built in 1903 and the first firetower in New Hampshire, had been maintained on Croydon Mountain, in Corbin Park, by the Draper Company and the Blue Mountain Park Association. The first mountain lookout built by the state was on Kearsarge North; this was completed in the fall of 1909. During the next two years thirteen stations were built in the northern part of the State by the Timberland Owners Association. Later all these were taken over by the Forestry Commission.

In 1911 the State was divided into four districts and four men were appointed district chiefs with pay at two dollars per day when on official duty. Their principal work was to supervise the construction and operation of the mountain lookout stations. In sections not under observation from a lookout the district chief arranged, if possible, with some person living on a high hill to telephone to the nearest forest firewarden or deputy the location of any fires discovered. Another important duty was to take personal charge of large fires which burned in two or more towns and to adjust expenses after the fire was extinguished. During this year there were fifteen lookout stations operated by the State and six by the Timberland Owners Association. In the years immediately following, four additional stations were constructed; the danger caused by railroads was reduced by special patrol along hazardous sections of the right of way during drought; and brush cut along State highways was removed. The Boston and Maine railroad equipped forty-five of its engines with spark-arresters.

A most valuable improvement supplied to the lookout service was a device called the relief alidade, used for making panoramic maps which showed the outline of the mountains as seen from the lookout tower. Such a map greatly helped the watchman to fix and report the location of a fire. The new plan was adopted of holding a large number of small firewarden conferences instead of a few large ones. Warden attendance increased and cooperation between towns improved. Portable steam sawmills were now multiplying and a law was passed requiring the operator to use a suitable spark-arrester except when the ground was covered with snow. In 1922 there were 139 portable mills whose owners had received approval to operate.

With each succeeding year the forest-fire laws were improved and better enforced. The kindling of fires in or near woodlands, the operation of portable sawmills, the use of spark-arresters on steam mills and railroad locomotives, the disposal of slash, and the dropping of burning material which might cause fires were all made matters of regulation. (Smoking and debris burning have always been the principal causes of forest fires.) More district chiefs were appointed. The Governor was given authority to proclaim a woods ban. Portable motor firepumps, field radio sets, better town fire equipment and the training of fire-fighters were additional factors which reduced the number and the cost of forest fires.

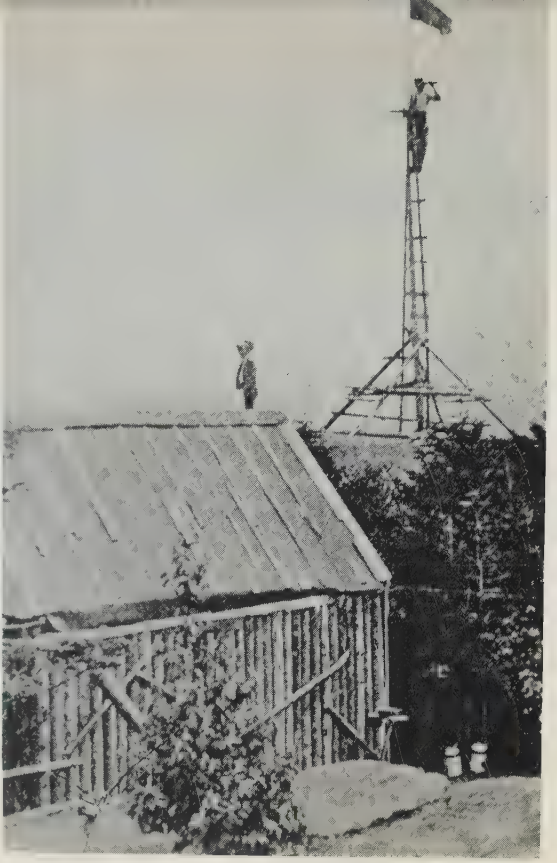
On September 21, 1938, a most disastrous hurricane, following a week of heavy rain, devastated the woodlands of New Hampshire. For five hours winds up to 50 miles per hour battered the forests. It was estimated that one and a quarter billion feet of timber had been blown down or damaged, causing problems of salvage, fire protection and clean-up. This storm created the gravest forest-fire conditions which have ever confronted the State. Special emergency fire measures were promptly enacted by the Legislature: additional fire lookouts were constructed, extra equipment of all types was brought into the State, local patrol was maintained in dangerous areas. Two years later it was estimated that 50,000 acres of blowdown timber had been cleared, 4,000 miles of roadside cleaned up, and one million man-days of labor expended in reducing the fire hazards. At the peak of employment in the State there were about 2,000 federal laborers, 2,000 W.P.A. workers and 800 C.C.C. boys engaged. Although there were more forest fires during the two years following the hurricane, most of them were quickly controlled and burned but small areas.

Since the hurricane, the efficiency of the entire fire-fighting personnel of more than 1,400 men has been strengthened and the fire equipment of both State and town expanded. Today, in proportion to its forest area, New Hampshire ranks near the top among states having an organization to fight forest fires.

It might be of interest to give a rough description of the excitement attending an out-of-control forest fire and of the efforts of the many persons engaged in combating it and their attempts to save personal property. The fire seasons of 1941 and 1947 were most serious. For many years it was part of my duties to coordinate the State Forester's office with the district chief in time of forest fires. I am stating briefly the efforts to control the Marlow-Stoddard-Washington fire and the Wakefield fire.

On the evening of April 28, 1941, three serious forest fires were burning and out of control: the Hinsdale-Chesterfield fire, the Nelson-Harrisville-Hancock fire and the Marlow-Stoddard-Washington fire. The last was the most serious; it burned 23,350 acres, threatened two villages, and destroyed seventeen farms and summer camps, two portable sawmills and the Pitcher Mountain firetower and cabin before it was brought under control.

I was in the office during the afternoon of April 28 when reports of these fires and others came in. The State Forester, his fire administrative assistant and I discussed the serious situation. I was asked to return to the office during the evening to carry certain supplies which one of the district chiefs had requested and to check on the other fires. I left Concord about midnight for Hancock to deliver this equipment to the district chief. At fire headquarters we discussed the many problems involved. This fire had burned in three towns, but was now believed to be under control except in a few isolated spots. I stopped at Keene about 2.30 a.m. for a snack in one of the diners before continuing on to Marlow. Here, at the village store, I met the Cheshire County district chief, who had just returned from the Hinsdale fire. He had left the control of that fire to experienced wardens, but was greatly concerned about the Marlow situation. This fire had started from a sawmill operation early in the afternoon and, driven by a strong north wind, had in five hours burned a strip of woodland six miles long and reached the edge of the town of Gilsum. About 150 men were already on the fire and the dis-



N. H. Forestry Department

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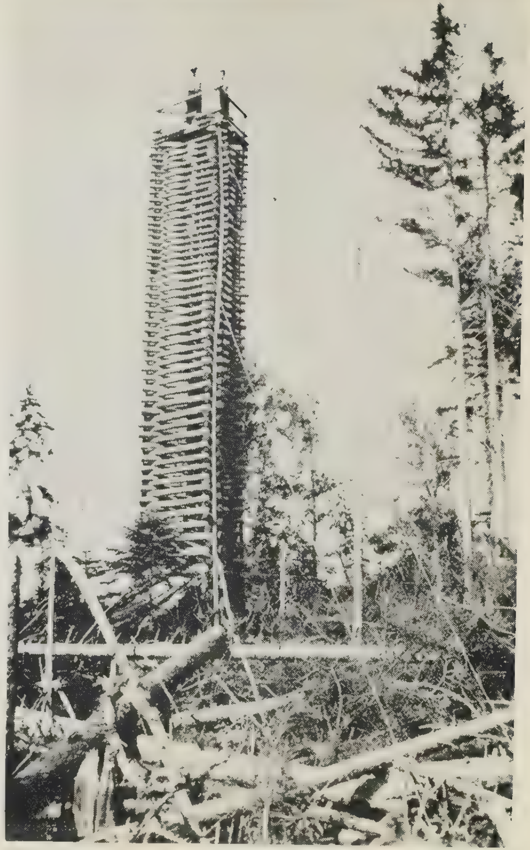

N. H. Forestry Department

TRIANGULAR TOWER MADE OF LOGS

Warren F. Hale

FIRE COMING UP THE STODDARD ROAD

This fire destroyed seventeen farmhouses trict chief was sending out calls for relief of these men at 7 a.m. the next day. In those days Marlow village boasted but one telephone; this was located in the store and was at that time for emergency use only. We all realized that should the wind shift to the west or southwest the village of Marlow would be threatened. Our plans were to have fresh men and equipment report here. Later I went to the State beach wagon for a little sleep.

In the morning a report of the fire was made by the lookout watchman on Pitcher Mountain. If the wind held to the north the fire might be mostly controlled. The boys from C.C.C. camps in New Hampshire and Vermont were taken out to the fire line by wardens and deputies, fire trucks were posted near isolated farmhouses, and a few portable radios were set up along certain roads. The wind had veered into the west but was not noticeable until about 10 a.m. Reports came into the store at Marlow, by runners dispatched by crew foremen on the fire line, that the fire had got out of control and that the heat was so intense that retreat by some of the crews was necessary. Dense smoke appeared in many places west of Marlow, indicating that the situation was becoming serious. I was anxious to get a fresh report from Pitcher Mountain. About twenty persons were grouped in the corner where the telephone was located; some of these persons were trying to get help for evacuating Marlow and others were requesting more fire equipment. After a short time I was given priority and talked with the watchman, who stated that a line of fire was fast approaching the village. Then I put in a call to the State Forester at Concord and urged that he hurry immediately to Marlow.

Heavy smoke was now pouring from a front about half a mile long. I decided to find out whether the Keene road was open, so drove my car in that direction. I passed blazing piles of lumber stacked near the road, so hot that I shut the car window. Crews of firemen with their trucks were trying to hold the fire, which was now fast approaching several farmhouses, but they had to retreat to an open field. Back to Marlow village I went, where the real fight was now to save, if possible, this village of several hundred people. Leaving my car near the mill pond, I hastened through the smoke to the western end of town, where the fire would strike first. State police had blocked all roads leading into Marlow. The people there could escape only by the road to Keene. The fearful roar of the fire approaching the town was terrifying. Men with ladders and back-pack pumps were alert for roof fires; women were patrolling their homes, watching for grass fires; fire trucks with crews were lined up, keeping their tanks ready for an emergency; children dismissed from school were kept close to the front doors of their homes. Fortunately, several open fields to the west made it possible to save the village. Fires in these fields were fanned by hot blasts and burned to the edge of dwellings and barns, where they were quickly put out. The smoke was stifling; at times visibility was not more than 200 feet. But this excitement lasted probably not more than thirty minutes. Suddenly the wild roar of the fire had passed the village; people stopped for a moment to rest; men were mopping up fires still smouldering; firemen were reeling in their hose. During all this turmoil to save the village it was reported that not one person had been injured or one building destroyed. Everyone was exhausted. As the smoke diminished the people realized their homes were safe, but that other homes in the back districts were threatened. The fire, now on a five-mile front, was headed for Pitcher Mountain and the town of Stoddard.

The Red Cross trucks had arrived from their headquarters in Keene and many people lined up near the store for hot food and drink. Here I found the district chief. Later the State Forester arrived and we attempted to make plans for that night and the next day. Pitcher Mountain had been completely enveloped in smoke and the watchman could only guess how far the fire had traveled or what was its extent. That evening the telephone line became unusable and about 9 p.m. the cabin and the wooden cab caught fire, leaving only the steel frame standing. I was returning from Stoddard village at that time and witnessed this unusual sight. That night the wind shifted to the south and drove the fire away from Stoddard village but into the town of Washington. Some boys' camps on the westerly shore of Highland Lake, which was more than ten miles from where the fire started, were burned and many isolated farmhouses on the Stoddard road were consumed. District chiefs from other parts of the State were summoned, as well as fire crews from every town nearby where men were available. On the fourth day the wind shifted to the east and a storm left four inches of snow, which finally stopped and extinguished all fires. But it was several days before people recovered from so closely escaping the losing of their homes.

Another fire in which I took part is probably one of the most unusual of its kind: a New Hampshire fire out of control in Maine. It was during October, 1947, when all the states of New England again experienced severe forest fires. Record-breaking high temperatures, such as 89° on the 17th and 85° on the 18th, were registered, while the relative humidity dropped to 22 percent. High winds from the west frequently rose to near 30 miles per hour and the woods ban had been invoked. The weather man forecasted no rain in sight. On October 21 a slash fire in Hampstead blew out of control; lightning started fires on Mt. Sunapee; careless smoking in Goshen caused a fire which burned over 150 acres. A roadside fire in Wakefield burned over 700 acres before it was checked. The Forestry Department was now better organized and equipped to handle the average fire, but no groups of men could handle the many fires which occurred within the next few days.

During the evening of October 21 I received a call from the State Forester that the district chief of Grafton County needed additional radio sets and batteries by daylight the next morning. My beach wagon rolled out of the driveway just after 2 a.m., headed for Wentworth, where a serious fire had been burning which was very inaccessible. A fire camp was set up five miles up an abandoned road and crews were sent over a high ridge to reach the fire. The next day I received a radio call from Concord to proceed to the town of Wakefield, where that fire had got completely out of control. Furthermore, I was told that there were nine other fires burning in towns nearby; the district chief was reported ill and not available for duty. Arriving at fire headquarters in Wakefield, I asked where was the head of the fire. No one knew. Fire scouts were out, but had not returned to report. The fire had already burned several farmhouses in New Hampshire and was raging furiously in Maine. It was necessary to return to Concord for more flashlight batteries and field radios. My younger son drove me back to Wakefield.

That afternoon I located the Maine district warden and several fire scouts and we tried to sketch on a map the area burned to date and the progress of the fire, which appeared to be bypassing the town of Newfield. The warden was later summoned to scout the west end of the fire, which had already burned about 700 acres in New Hampshire and hundreds of acres in Maine. A New Hampshire trooper joined us at West Newfield and we followed a road north of the village almost to the edge of the roaring fire. Here a few men with a tank truck were preparing to save a fine homestead. I had just taken a photograph of the fire raging in back of the house when up the road came a horse on the dead run, dragging a burning buggy. Where was the driver? Men nearby stopped the horse, cut the traces and threw water on the exhausted animal. Several of us raced down the road and there in the ditch, not 500 feet from the fire, lay the unconscious driver with all his clothing completely burned off. He had delayed his escape from his farm too long. He was rushed to the nearest hospital where he died two hours later.

As we walked up the road, I noticed that the air was slightly cooler, which indicated that the wind was changing to the north. The course of the fire would be toward the south and it would shortly threaten the village. I suggested to the State trooper that all houses on that road be immediately evacuated. He departed at once to warn these people, who hesitated to leave their houses. Later he told me that everyone moved out except one old man and the trooper carried him out bodily to his car and safety.

It is impossible to describe the moving scene of people preparing to leave their homes on the approach of a roaring forest fire. Some remain about their premises, hoping that the fire will pass them by; others leave in their cars for distant places; others just depart, not knowing where to go. As we drove out of the village, I saw an elderly woman lock her front door and carefully put the key in her pocketbook, well knowing that the key would never turn the lock in that front door again.

Late in the evening I located the Maine district firewarden and we tried to draw up a plan for crews to scout the fire after it was under control. Maine men had been fighting this fire in New Hampshire and New Hampshire men were in Maine. The state boundary was of no importance in organizing and handling the fire. The New Hampshire State trooper had rendered most valuable service in assisting the evacuation. In Newfield, Maine, several persons were burned to death and scores of farm buildings destroyed. I was mentally and physically exhausted, but a State trooper summoned me to broadcast the fire situation from a temporary station at Ossipee. At 12.45 a.m. I described in ten minutes some of the scenes we had just experienced. Later my son drove me to the little hotel at Effingham Falls where I tumbled into bed just after two in the morning.

Incendiary fires cause grave concern to those who are responsible for the protection of the woodlands. Some years there are practically none; in others we are involved for weeks trying with the aid of the State police to apprehend the culprits. We have found devices that could be planted and would blow up at a certain designated time; others that could be thrown from car windows. One of the most puzzling cases occurred during a bad fire period when two incendiaries were setting fires, one in the daytime and the other at night, yet neither one knew what the other was doing. We also discovered a young fellow who went to a dangerous cut-over lot, set it afire and bicycled back to the fire station just as the alarm came in. He jumped on the fire truck with the other firemen and helped the crew put out his own fire. One day the truck started in the wrong direction and he inadvertently informed the driver where the fire was! The State has been very fortunate in having so few undesirable persons. Most of these arson cases receive prison sentences.

New Hampshire is a forest state having more than 80 percent of its entire area in woodland. Each year about one million persons come to New Hampshire to enjoy its hunting, fishing, camping and many recreational areas. Unfortunately there is still a small percentage of people who appear to be careless with fire in woodlands.

THE MYSTERIOUS PLATEAU

by GEORGE V. B. COCHRAN

"A MYSTERIOUS PLATEAU first sighted at dawn from the slopes of the upper Waddington Glacier." So wrote the late Don Munday[1] of the Canadian Alpine Club, who accomplished the original exploration of the Mt. Waddington area in the remote Coast Range of British Columbia and who was probably the first person to see the Homathko Snowfield. It may have been sighted in 1874 by Major Will Downie who, while searching for a route from the coast to the Fraser River, said he saw "nothing but snowfields as far as the eye could reach, and the horizon itself seemed shut in by ice and snow".[2]

Whether this was actually the Homathko Snowfield is in doubt, but the words aptly describe the region. Although only two hundred air miles north of Vancouver, the snowfield lies in an area that is difficult of access, sketchily explored and, according to the Canadian Hydrographic Survey, includes "some of the roughest country in North America". The snowfield is a great undulating plateau measuring about 15x20 miles and lying at an average elevation of 7000 feet, with the mountains on its western border dropping straight to the sea. Its surface is broken by nunataks rising from a few feet to 2000 feet, while its periphery is ringed by higher peaks, several of them greater than 10,000 feet. These give it the effect of a great basin, differing from the adjoining icefields that are laid out along more conventional lines. Numerous glaciers radiate from the high névé and flow between the peaks to drain into the tremendous trenches of the Homathko River on the north and the Southgate River on the south; both rivers cut right through the range and flow into Bute Inlet and the Pacific. Their valleys surround the snowfield like pincers, meeting at a divide near the "Alph Glacier" and creating an island-like massif which in this way resembles the Waddington massif and other "islands" in the Coast Range that are similarly isolated by great river trenches.

When I first became interested in the Coast Range several years

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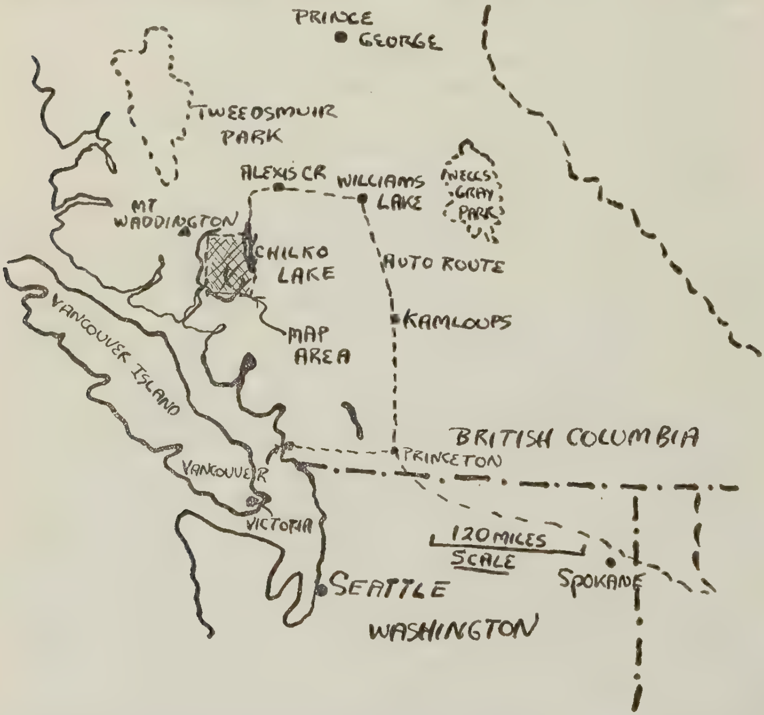
Place names in quotation marks have not yet been officially approved by the Canadian Board on Geographic Names.

[1] Don Munday, "Beyond Bute Inlet", *Canadian Alpine Journal*, 1942.

[2] Don Munday, "Early Explorations in the Coast Mountains", *C.A.J.*, 1942. See also: T. Fyles, "Peaks of Bute Inlet", *C.A.J.*, 1930; and Paddy Sherman, "Homathko and Queen Bess", *C.A.J.*, 1956. This describes the second ascent of Mt. Queen Bess; the first was by Don Munday in 1943.

ago, I began looking for a part that was as nearly unexplored as possible. Mt. Waddington, the highest mountain in B.C., is surrounded by the largest icefield in the B.C. Pacific ranges. This area, however, had been visited frequently on the numerous attempts to climb Mt. Waddington and its neighboring peaks. Icefields to the north and farther south had also been explored. But the Homathko Snowfield, second in size only to the Waddington snowfields, had been left strangely untouched, perhaps because of the absence of peaks of outstanding altitude within its borders. The country adjacent to it had occasionally been visited and the most prominent peaks climbed, such as Mt. Queen Bess (10,700 ft.) on the north and Mt. Grenville (10,200 ft.) on the southern edge. One party did penetrate a short distance onto the southern edge of the snowfield proper and climbed another peak there. Aside from this, however, the snowfield has remained the "mysterious plateau", often described from afar as being vast and unique, but never investigated.



Once the objective was decided the work was only begun; the difficulties of gathering expedition manpower, food and equipment are probably well known to most. One aspect, the food supply, might be mentioned. We carried twenty-seven days of prepackaged food designed and made up at great home labor into two-man-meal packets, sealed in polyethylene. These were carefully planned to provide 4,000 calories and 100 grams of protein per man per day in a weight of two pounds and requiring minimum cooking time. We had three different menus and in general the system proved to supply a quite palatable diet and to be extremely efficient as regards weight, economy of waste, and ease and speed in determining just what food was available for any given period. Our food for the remaining days was carried in bulk form.

At length all was prepared and I left New York enroute to Cleveland to meet Dick Beatty, a former Dartmouth classmate now at the University of Michigan Law School. From there a rapid non-stop drive brought us to Princeton, B.C., where we met our companions, Alastair Morrison and John Rucklidge, geology students from Cambridge University, who had obtained a grant to come to Canada to do some glacier research and, they hoped, to climb.[3] With these additions the station wagon became loaded far beyond Detroit's intentions, but we made our way five hundred miles up the only road through the interior, along the Fraser River Canyon to Williams Lake and then west to Alexis Creek. From here it was fifty miles by a "road" to the head of Chilko Lake. This "road" can best be described by the fact that the return trip, in an unloaded car (our equipment came out by truck), took us six hours at maximum speed! Most people fly to Chilko Lake.

Our destination was Chilko Lodge, a hunting and fishing camp, where we were forced to wait for three days for the proper wind and the proper mood of the proprietor to get us down the lake. Finally we left on July 31 and crammed ourselves, "guide", and 600 pounds of duffle into the nearly swamped boat for the forty-mile trip down the spectacular mountain-bound lake to the end of Franklin Arm. This method of approach was untried and seemed potentially easier than the long trek south from Tatlayoko Lake or the 7000-foot climb from Bute Inlet through the infamous rain forests of the western slopes. Perhaps the difficulty of these two approaches accounts for the lack of previous exploration; our way, however, proved to be only a little better. Unfortunately, we depended on backpacking, for horses could not be got down the shores of Chilko and an air-drop turned out to be impractical for various reasons. At the time no dependable maps of the region were available and we used mainly R.C.A.F. aerial photos as a guide. Now the government is preparing a good map from these photos and the one reproduced here is made from an advance copy of this sheet.

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[3] Morrison and Rucklidge picked a suitable small cirque glacier on "Impasse Ridge" and after mapping it with a preliminary plane-table survey made further studies of the angle or dip of the ice bands where they appeared both on the surface and beneath the surface in crevasses. Their object was to obtain further evidence in support of the theory of movement of glaciers by "rotational slipping". This theory had been worked out by Professor W. V. Lewis of Cambridge University and studied on glaciers in Norway, but never in North America. See W. V. Lewis, "Glacial Movement by Rotational Slipping", *Geografiska Annaler* (Stockholm, 1949), XXXI, 146-158; Jean M. Clark and W. V. Lewis, "Rotational Movement in Cirque and Valley Glaciers", *Journal of Geology* (Chicago, 1951), 59, 546-566. An account of the research by Morrison and Rucklidge is being published in this year's *Canadian Alpine Journal.*

On reaching the end of Franklin Arm, we were dismayed to see our way blocked by a rugged 8000-foot ridge rising between Deschamps and Nine-Mile creeks and creating the usual narrow, steep-sided Coast Range valleys. We were seeking an old trapper's cabin allegedly at the end of Franklin Arm and we noted some strips of cloth that appeared to mark the spot. Our ignorant guide had his own theories, however, and insisting that the red cloth was a warning of quicksand deposited us and our huge mound of loose equipment on a moose-tracked beach half a mile away and took off for home! After this, our first mistake, we found the cabin in the expected spot. We then proceeded to make our second mistake, an abortive attempt to build a 30-foot tripod to keep our extra food from the grizzlies. The first structure was too strong, i.e., "If John could climb it, so could a bear", and the second too weak. When that collapsed with its load we gave up and, after barricading our second load of supplies in the cabin, packed up the first lot and made our third mistake, that of choosing Deschamps valley as our first route, merely because an inviting trapper's trail had been cut two miles up the stream. Planning a quick three-day trip to deposit a cache near the snowfield, our fourth mistake, we loaded our packs mainly with food and climbing equipment and a minimum of clothes and cooking utensils. We set off up the trail on the afternoon of August 1 and despite our 80-pound packs made rapid progress for two miles, when the trail suddenly ended and left us in a trackless, swampy delta consisting of rotting trees, fern tangles, moose wallows and innumerable icy streams. We stumbled, cut and splashed our way across it and finally collapsed at the foot of the first cliff of "Impasse Ridge". Here the packs nearly undid us, being so heavy and unwieldy that they were almost impossible to lift and could be mounted only by sitting down, then getting onto one's knees and finally up with the aid of a tree. Everyone was so exhausted and encumbered that no hand was offered to the luckless one who stumbled into a hole or over a tree. He was left to his own devices, his comrades being unable to do more than sadly observe his struggles.

This was our introduction to Deschamps valley; the rest was no better. It appeared so impossible that we camped in the swamp and spent three days in reconnaissance and trail-cutting. We explored as far as we could up and down both sides of the valley and across the end of the ridge, and even waded the freezing stream without seeing any route in the slightest degree encouraging. The weather was terrible and for many more days we suffered from constantly wet and soggy clothes, as well as from inadequate cooking facilities, before returning to base camp, where all necessities seemed to be. It would have been fine for the planned three days, but it took nine. Rough was hardly the word; the river was too wild to follow, the valley walls too steep and the bush maddening. Ravaged time and again by fires and avalanches, the valley was a maze of alderbush jungle, blowdowns, scrub growth, swamps and closely packed trees, dispersed amid cliffs and steep slippery slopes of rock, moss and unstable scree. A moment's diversion of attention from the ground meant tripping on something, followed by a blow on the head from an unseen branch and a jab in the middle from another. As soon as this was untangled one's pack got caught and the whole cycle began again.

By the morning of the fifth day we were entirely discouraged, our reconnaissance was over and the whole valley seemed impassable. Nevertheless, time was passing and we had no choice, so we got on our packs and moved off up our new trail and into the bush beyond. Progress was slow, but our ideas of what was "impossible" with our packs were changing. We tried to keep to the crests of some burned hills, where the bush was less dense, and thus went over four of them, 500 steep feet up and down each one, with the inevitable alder and blowdowns between. A lucky choice of routes allowed us to make better progress than on our reconnaissance. When there were no more hills we followed a burned strip high up on the side of "Impasse Ridge" and, after our worst band of alder, it took us an hour to traverse 300 yards across the steep slope. Finally we came out at Camp IV[4] on a heather ridge, above treeline at last. We could see above us an alder-free ribbon of scree climbing up and eventually winding around the still unseen corner of the valley. It seemed to offer a route and at the end of this long day it looked as if we were at last on our way. Although we were still less than halfway, having gone but four miles in a straight line, we felt free, for we could look down the valley and with a glance cover our miles of winding course of the past five days. Dick's feet were our main worry; they were becoming sore from the constant wet, but little could be done.

It turned out that our objective was still three days away. We ascended the scree ribbon and followed a goat path beneath the cliffs. Around the corner, however, the scree ended at impassable couloirs and we were forced to descend 2000 feet to the valley floor, down the most loose and treacherous screes yet encountered. Each step produced an avalanche and at each moment our heavy packs threatened to tumble us off our unstable footing. The valley floor had appeared to be a pleasant meadow at this point, but it turned out to be a mass of swamp and avalanche debris which nearly demented one member who got lost in it. Above this "meadow" the river entered a gorge. This we circumvented, after crossing the valley and having a half-day rest in a heavy rain (Camp V), by ascending 2000 feet of the moraines on the south wall of the valley (Camp V A), finally crossing a ridge and descending 1500 feet to the upper valley. Here troubles were over, for it was a pleasant open, though swampy, alpine meadow cut by a braid of quiet streams that merged into Deschamps Creek. At the end the snout of "Stilly Glacier" lay saddle-like across the divide that led over to the deep valley bordering the eastern edge of the snowfield.

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[4] Roman numerals in text correspond with similar ones, marking camps, on the map.

A short way up the glacier and beneath the ridge that separated us from the blind end of Nine-Mile valley we established Camp VI, our cache, and spent a cold night on the ice dreaming of the comforts of base camp and dry clothes. We suffered from the cold, although the temperature was not much below freezing, and even later with adequate dry clothes we noticed that in order to be comfortable we were obliged to wear much more than might have been expected. We felt that it was the constant dampness of the air from the Pacific that made the moderately cold temperatures so penetrating. Each night, of course, the cold air coming down the glaciers added another icy breeze. This phenomenon was affectionately called "drainage".

The surroundings made up for the cold, for the night was perfectly clear, with a few luminous clouds capping Mt. Good Hope to the southeast and reflected moonlight shining from the almost continuous slopes of ice to the south. The most impressive effect on this small glacier was the absolute silence. It was astoundingly dead, and greater than any silence we experienced even in the midst of the snowfield.

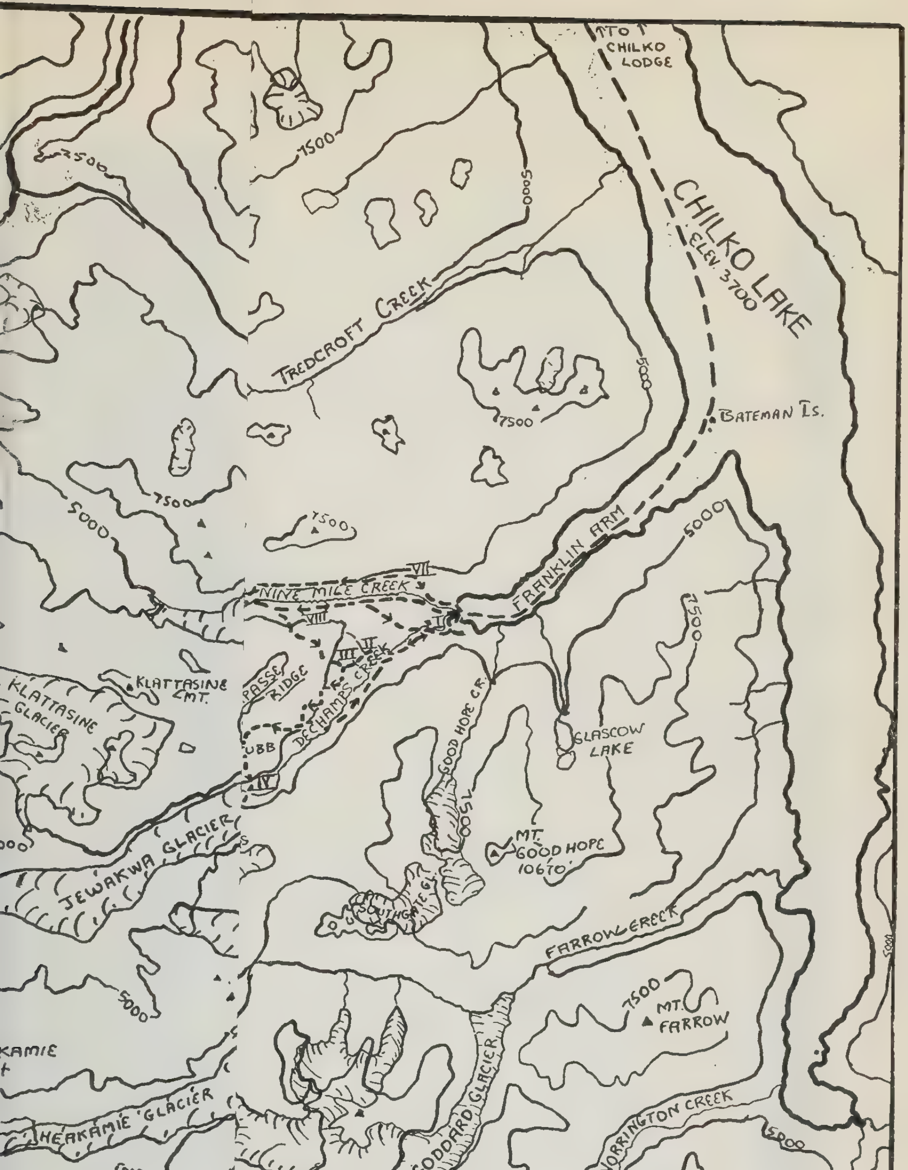
Prodded by the cold we climbed the 500-foot ridge above camp at dawn, carrying only one tent, sleeping-bags and a little cold food for the dash to base camp. From atop the ridge we gazed down Nine-Mile Creek; the way looked long and the lake was around a bend, still it seemed an easier route than Deschamps. Somewhat against our better judgment we negotiated the steep glaciated headwall without the benefit of climbing equipment and then rapidly stepped off down the valley. The upper two-thirds seemed ridiculously easy after the heavy packs and obstacles of Deschamps. (We estimated that we had climbed up and down a total of 15,000 feet on that trip, to say nothing of the many extra miles of our winding route.) There were many patches of open wet meadow in Nine-Mile, but late in the afternoon we finally reached solid bush extending the last three miles to the lake. Even here the ease of travel was enormously greater with our negligible packs and we reached the cabin at dark, only five hours later. That night we were exhausted, but satisfied that we had beaten that fantastic country, having come twelve miles through it in one long day. Originally the cabin had seemed almost too grubby to enter, but now it appeared a palace after long days of soaked clothes and inadequate equipment. We were dry and well fed and it seemed as if never, by any possibility, could we desire anything more!

The return trip, with stops at Camps VII, VIII and IX, took two and one-half days of travel with 70-pound packs. Although the bush was in some places as bad as in Deschamps we were now hardened to it, despite the additional burden of surveying equipment and a pair of skis that eventually drove us to distraction on the steep slopes and icefall of the "Alph" valley. Although there was a pair each at base, we decided that one pair was the most that we could possibly bring up to aid travel on the snowfield. We were right! Finally, on the afternoon of August 14 we left the cache tent-site and went across the "Stilly Glacier" for our first view of the "Alph Glacier", which led to the long-awaited snowfield. We were still separated from the "Alph" by 2000 feet of very steep valley-side, which we descended with great difficulty through dense scrub pine and over slippery grass and steep slabs (Camp X). The "Alph Glacier" lies just south of the divide, with Malim Creek flowing from south of the "Nostetuko Lakes", under the glacier, and eventually into the Southgate River, while the Nostetuko River flows north from the lakes and into the Homathko. The "Alph" is a beautifully curving glacier, lined with moraines and broken by the same odd "spiral-crevasse" systems, series of concentric rings of crevasses, that we had noted on "Nine-Mile Glacier". As we later discovered, Malim Creek flows beneath the glacier and probably accounts for these spiral sink-holes and for the occasional great crashes heard as ice fell into the river from the roof of the cavern. Where it enters the glacier, the river has made such an impressive cavern that we took the name from the poem "Kubla Khan": "Where Alph, the sacred river, ran/ Through caverns measureless to man".

Putting on crampons, we made rapid progress up the dry glacier and then continued winding our way up a fairly uncomplicated 1000-foot icefall and over a final bergschrund to our first lunch stop on the snowfield. Inviting peaks rose from the snow to the south and west of us, while a broad snow highway that seemed to be going in our direction ran along a lower ridge to the right. After having resisted the impulse, all the way up the icefall, to smash the skis, which had fallen into nearly every crevasse, we now found them unnecessary, as we sank only a few inches into the snow. John, however, made his first attempt at skiing and managed a good rate of speed, while we plodded along the center of our pass where the snow rolled gently up and down and there appeared to be no crevasses. The ice beneath must have been fantastically thick but we had no way to estimate it. Ahead the snow sloped gently up to the horizon and we determined to reach the crest before night. As we went on, however, it never seemed to get any closer. This was our first lesson on the snowfield: things were always exactly three times as far away as they appeared. We judged our average pace to be two miles per hour and we were soon able to estimate accurately the travel-time to different objectives. The skyline we headed for later proved to be the divide of the snowfield; from there it was more or less downhill to the Jewakwa Glacier.

When partway up the hill we suddenly came on a gently curving line of tracks which stood out plainly from the many sun-cups, then eventually disappeared over the top. Of course the sun had altered their shape and size, but they appeared as depressions eight inches wide, four inches deep, and about three feet apart. The odd part was that they were placed in a long single line, one exactly in front of the other, as if someone had been walking a tape. We could think of nothing to account for this except possibly the hopping along of a very large and adventurous rabbit and finally decided that we had come on the spoor of the "sasquatch", a legendary beast that is apparently quite well known over B.C. and that might be compared with the *yeti* of the Himalaya. The news was enthusiastically received from Alastair by the B.C. press and I later wondered why, with all this furore, we hadn't tried to follow the tracks. The reason was well expressed by John, who said that we were just too bloody fagged at the time to care! That night, in order to get off the snow, we built a tent platform (Camp XI) 30 feet up the cliffs of "Cloister Ridge" and then climbed the nunatak for a quick look at our surroundings before dark.

We now felt the pinch of time. Many things had delayed us; just moving from Camp IX to Camp X had used up a day, for it took so long to reorganize at the cache tent. Although it was only August 15, John and Alastair would have to leave time to return later to a small cirque glacier on "Impasse Ridge" to do their glacier studies, as there was no suitable place for this on the snowfield. To add to the trouble, Dick was still suffering from the painful heel fissures acquired in Deschamps valley and was barely able to travel. The only cure was rest and we had had none. Nor did we have food enough to wait, so there was no choice but to go on the next day. Dick, deciding that he was unable to make it, generously volunteered to stay on "Cloister Ridge". Since we now had adequate equipment, we left him a tent and his share of food and trekked off to the west in the morning, leaving him on his



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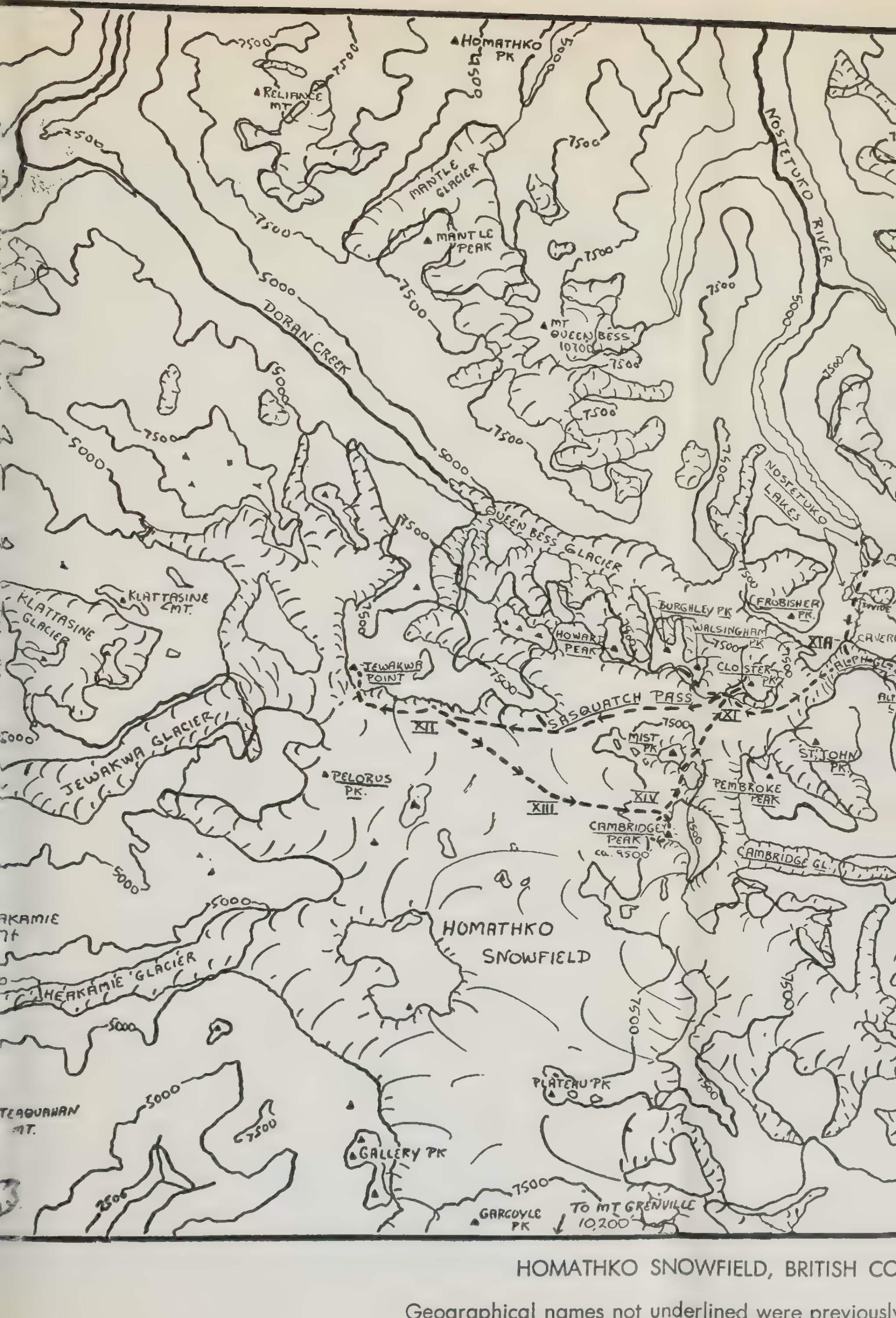
managed a good rate of speed, while we plodded along the center of our pass where the snow rolled gently up and down and there appeared to be no crevasses. The ice beneath must have been fantastically thick but we had no way to estimate it. Ahead the snow sloped gently up to the horizon and we determined to reach the crest before night. As we went on, however, it never seemed to get any closer. This was our first lesson on the snowfield: things were always exactly three times as far away as they appeared. We judged our average pace to be two miles per hour and we were soon able to estimate accurately the travel-time to different objectives. The skyline we headed for later proved to be the divide of the snowfield; from there it was more or less downhill to the Jewakwa Glacier.

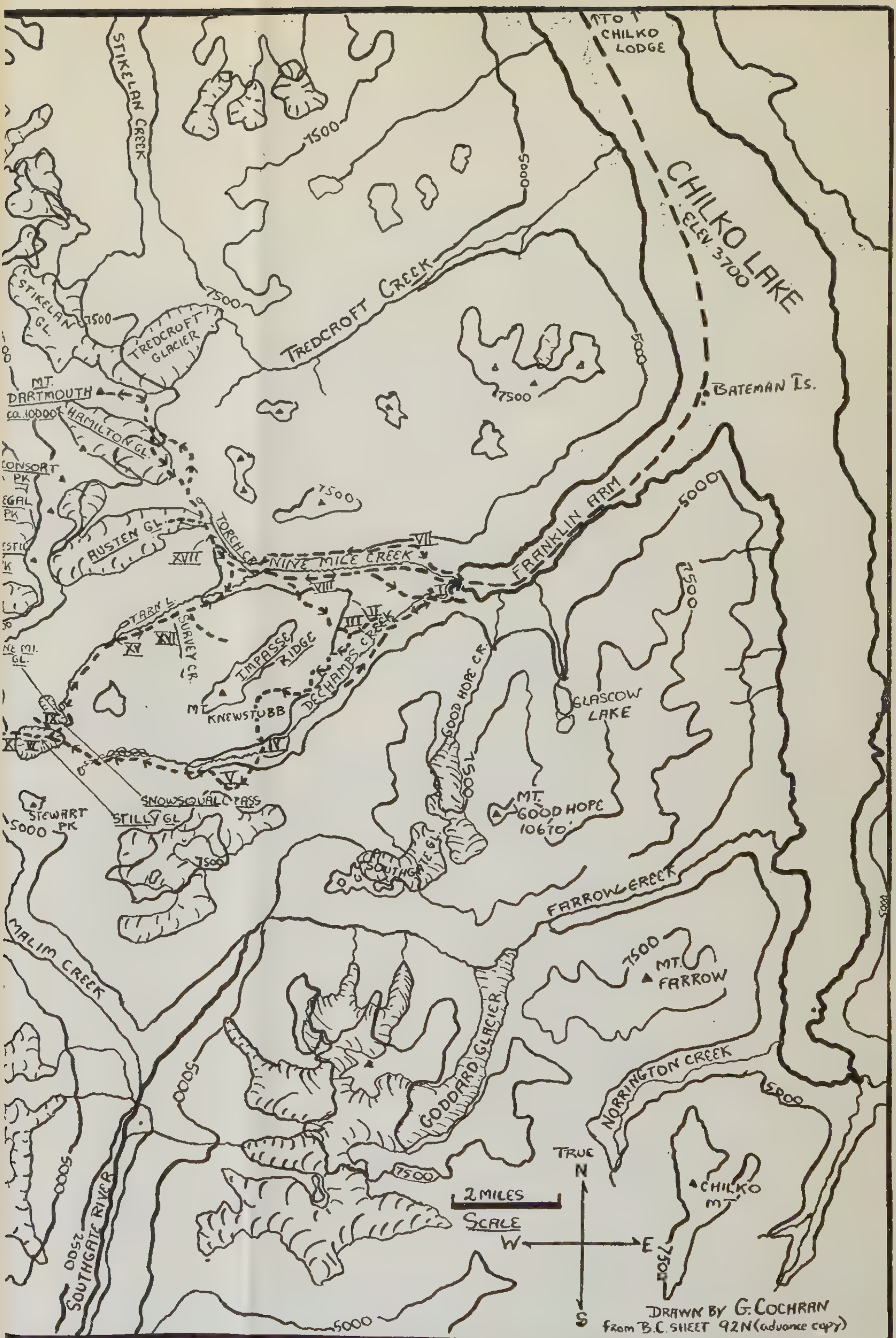
When partway up the hill we suddenly came on a gently curving line of tracks which stood out plainly from the many sun-cups, then eventually disappeared over the top. Of course the sun had altered their shape and size, but they appeared as depressions eight inches wide, four inches deep, and about three feet apart. The odd part was that they were placed in a long single line, one exactly in front of the other, as if someone had been walking a tape. We could think of nothing to account for this except possibly the hopping along of a very large and adventurous rabbit and finally decided that we had come on the spoor of the "sasquatch", a legendary beast that is apparently quite well known over B.C. and that might be compared with the *yeti* of the Himalaya. The news was enthusiastically received from Alastair by the B.C. press and I later wondered why, with all this furore, we hadn't tried to follow the tracks. The reason was well expressed by John, who said that we were just too bloody fagged at the time to care! That night, in order to get off the snow, we built a tent platform (Camp XI) 30 feet up the cliffs of "Cloister Ridge" and then climbed the nunatak for a quick look at our surroundings before dark.

We now felt the pinch of time. Many things had delayed us; just moving from Camp IX to Camp X had used up a day, for it took so long to reorganize at the cache tent. Although it was only August 15, John and Alastair would have to leave time to return later to a small cirque glacier on "Impasse Ridge" to do their glacier studies, as there was no suitable place for this on the snowfield. To add to the trouble, Dick was still suffering from the painful heel fissures acquired in Deschamps valley and was barely able to travel. The only cure was rest and we had had none. Nor did we have food enough to wait, so there was no choice but to go on the next day. Dick, deciding that he was unable to make it, generously volunteered to stay on "Cloister Ridge". Since we now had adequate equipment, we left him a tent and his share of food and trekked off to the west in the morning, leaving him on his



HOMATHKO SNOWFIELD, BRITISH CO

Geographical names not underlined were previously
Geographic Names; those underlined were
Contour intervals marked at 2500,
Roman numerals I to XVII are campsites



UMBIA COAST RANGE

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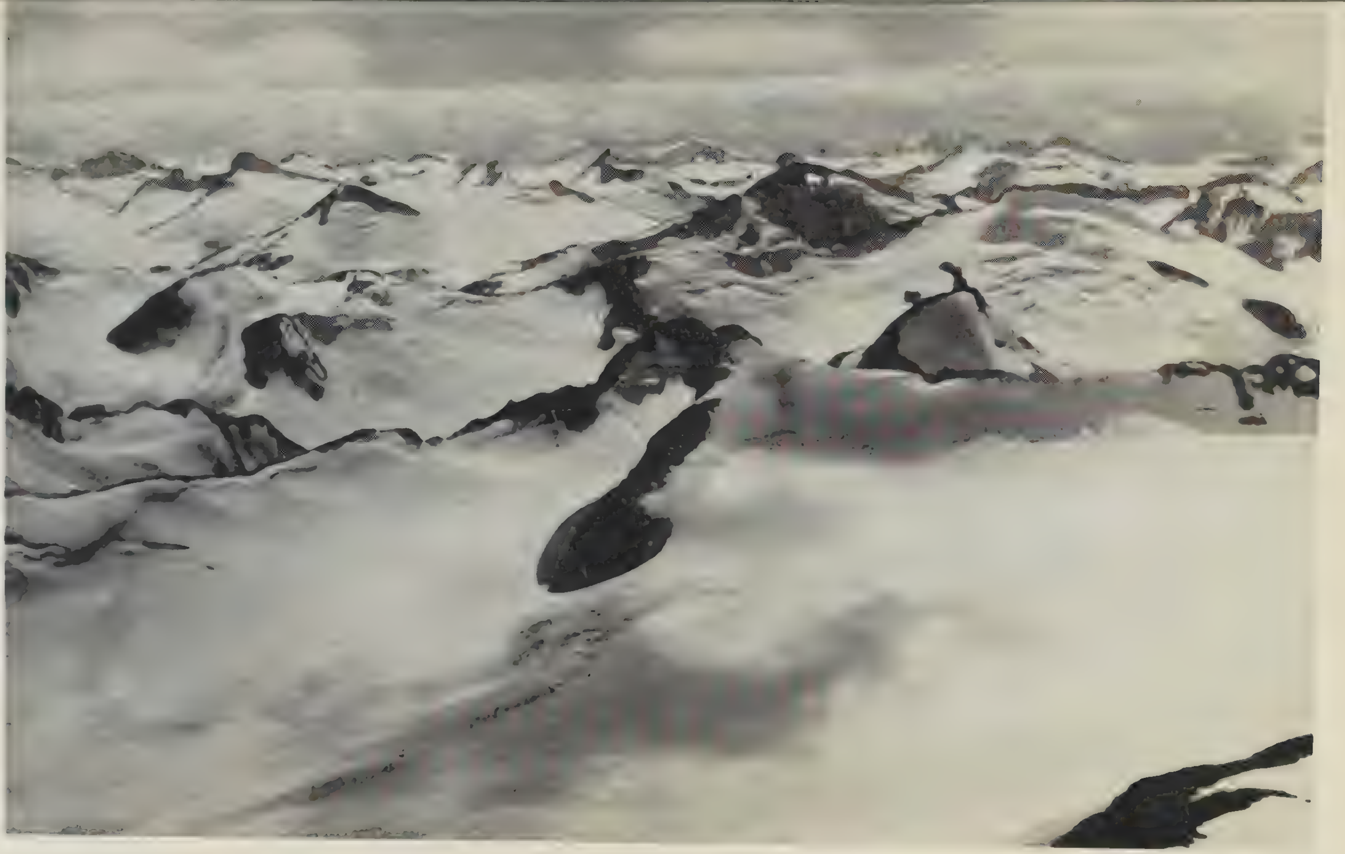

George V. B. Cochran

HOMATHKO SNOWFIELD FROM MOUNT DARTMOUTH

Route lay across center of snowfield

George V. B. Cochran

BEATTY ON GLACIER LEADING TO HOMATHKO SNOWFIELD strikingly isolated platform surrounded by a limitless extent of ice and rock. We headed generally for "Pelorus Peak", carefully recording our compass courses and distances in the event of bad weather destroying our landmarks.

All day long we moved across the firm snow, going up and down the great gentle undulations of "Sasquatch Pass" and passing endless nunataks and peaks to the left and right, dominated by the matterhorn peak of Queen Bess on the northern horizon. Travel was rapid, but tiring and tedious in the hot sun and endless snow. Ahead the snow seemed to slope gently down into the distance, into a valley that, with the aid of our photos, we decided was the Jewakwa. By evening we could see that we were definitely on the upper reaches of a large glacier and we made Camp XII on a spit of dirt about two miles from a turn in the valley that looked like our goal.

A rapid walk next day brought us to the beginning of the first great icefall of the Jewakwa Glacier. Although it was still nearly level we had to thread our way across a maze of crevasses and snowbridges. The ice itself was mostly bare, so bridges were plainly visible; but we had to exercise care, for in many places we were nearly surrounded by great crevasses dropping out of sight a hundred feet below the remaining snow. On reaching the north side we climbed "Jewakwa Point" and from here could see around the corner and look for miles down the untrodden glacier, as it fell over a mile to the sea in an almost continuous mass of shattered icefalls. The valley walls were almost vertical and behind them were the peaks of Klattasine Ridge backed up by the great Homathko trench and finally the high snows and peaks of the Waddington massif. As we stood on a cliff above the icefalls, the great expanse of snow behind us, set against the terrific valleys ahead, gave a dizzying sense of depth and almost incomprehensible size.

After constructing a large cairn to commemorate the first crossing of the snowfield, we headed back toward our next objective, a black jagged rock, later named "Cambridge Peak", which was visible across the snowfield and lying at the head of "Cambridge Glacier", about four miles south of "Cloister Ridge". About halfway there we spent the night on a low spine of rock (Camp XIII), where we enjoyed grandstand seats for a Mt. Waddington sunset. Next day we got off to an alpine start and traveled rapidly, with mere 40-pound packs, over the still frozen snow. There was some debate as to whether we should climb the south ridge, which looked short and fairly easy, or the northern one, that was long and heavily studded with gendarmes, including a large one which jutted out over the western face. Finally sporting blood prevailed and we started up the lefthand ridge, led for a greater part of the way by Alastair and John. The first half was not too difficult, keeping to the ridge and going up and down over the smaller gendarmes. As a rule the rock was moderately untrustworthy. We reached a cornice covering the top of the ridge and forcing us to go just beneath it on the northeastern face. After regaining the main ridge we were faced with the huge gendarme pointing out to the west. A rectangular pillar of rock about 40 feet high rose along its eastern side and was spaced just right to allow an excellent chimney climb up most of its length. But at the top we found a more formidable problem. We were on a ledge on the northeast face, several thousand feet above "Cambridge Glacier", which lies considerably lower than the snowfield on the western side of the peak. Above us the gendarme soared for a hundred smooth, nearly vertical feet and there appeared to be no good way across its face, at our level, to regain the ridge beyond and above it. Only one route seemed possible. Running vertically up its center was a large crack just wide enough for us to squeeze into in its lower portion. Alastair led wriggling up, coming out about 20 feet above when the crack narrowed and some footholds appeared on the edges. From there he went on up to a good ledge for a belay. This was quite fortunate, for in following I optimistically didn't bother to divest myself of a bulky load of cameras and other bits of equipment. Being slightly larger than Alastair, I got stuck inside the crack about 15 feet up and foolishly tried to come out on the edge before I reached the good footholds. After a rapid and unplanned return to the bottom I sent my equipment up by rope and, thus thinned, went up without difficulty, to be followed by the eel-like John who managed to come up all the way inside the crack. From here the prospect was again bleak, for we were still 30 feet below the crest of the ridge, with no way to go straight up. The face was nearly vertical and the rock quite uncertain, but Alastair managed to make a 120-foot diagonal traverse across this very exposed pitch to regain the ridge. Above this point it was easy work along the ridge to the summit, except for one more excursion out onto the northeast face just below the top, where again the holds were questionable. Our quick climb had turned into a rather lengthy one, taking seven hours up and involving a few intricate bits of climbing.

We measured the altitude as 9500 feet and stayed awhile recording the event, cairn-building (for this was our first virgin peak of significant size), and taking in the tremendous panorama of the snowfield from the distinctive gray frosted slopes of Mt. Grenville on the south to Mt. Queen Bess on the north. There were no big peaks surrounding us, as there are in many ranges, and we could see across a waste of snow and rock that was strikingly similar to a real dry-land desert. Far away we could see "Jewakwa Point" and the thin spine of rock where we had last camped. We made a quick, easy descent of the southwest ridge and, after forcibly restraining Alastair from going into a crevasse to regain a lost hat, we spent a chilly night on another rib of rock (Camp XIV) just north of the peak. On one side it was innocently level with the snowfield; on the other it dropped 600 feet straight to the "Cambridge Glacier".

We awoke seemingly suspended in a void of white, for fog had come, and this lasted most of the day. We started home to Dick, sinking in to our knees in snow that was maddeningly soft, and stumbling as we were in a "white-out" and could hardly tell up from down. We went over the shoulder of "Mist Peak" guided by patches of familiar rock that occasionally appeared in the sea of fog and descended the north side through some treacherous crevasses and soft avalanche slopes. Beyond the pass hot tea awaited us in camp. Dick had so engrossed himself in photography and in Robert Graves' *Greek Myths,* which he had practically memorized, that he had hardly noticed our absence. While he and I laid plans for the future the others went off for an afternoon attempt on the three peaks to the west ("Howard" *et al.*), but were stopped by the weather. Next morning, the 20th, after a painful attempt at skiing on the now icy slopes below camp, we left the snowfield for good and retraced our steps to the "Alph Glacier", leaving behind "St. John Peak", "Mist Peak", and many others still untouched. The weather soon cleared and we pondered on our luck in having blazing sunshine for five days out of six on the snowfield. This was quite a contrast to the valley weather and we wondered if the snowfield generated its own "high", sufficient to keep it usually clear.

Now the time had come to part ways and John and Alastair returned to "Survey Glacier" on "Impasse Ridge" while Dick and I headed for the "Nostetuko Lakes". The next couple of days were pleasant ones, since we were free from the pressure of accomplishing our first objectives and able part of the time to walk around without packs, an unheard-of luxury. We camped in the upper Nostetuko Valley (Camp XI A) beneath "Frobisher Peak" and after making a fine bonfire of the now hated skis explored the area, photographing the magnificent alpine flowers and the most perfectly formed moraine lakes we had ever seen. The valley just north of the "Alph" had once been a large lake itself, at a time when it had been dammed by the glacier. We entered the cavern beneath the glacier, lighted with the weird blue of sunlight shining through thick ice, and later camped at the foot of the "Alph" on an island near the ice cliff that rose above the dark green water of the terminal lake.

Next day the climb out of the valley to "Snowsquall Ridge" was arduous, as packs were again heavy with retrieved caches. That night we experienced our only heavy storm, with high wind, rain, thunder and snow, delaying our trip down Nine-Mile and making the valley soggier than ever. We passed John and Alastair's tent in the valley (Camp XVI) and arrived, August 24, at the final objective we had thought up while on the snowfield. A deep side-valley containing "Torch Creek" entered the north side of Nine-Mile. We had noted a prominent peak at its head and on the photos had seen other peaks and glaciers which seemed within easy reach, as the valley was only three miles long and the stream had cut such a swath through the trees that bushwhacking was unnecessary. We established Camp XVII on a sandy patch near the raging silty stream and stayed there three days, escaping the usual grind of daily repacking.

The next morning was gray and rainy, so we spent the best part of the day exploring the head of the valley and taking a short trip up "Austen Glacier". At the head of this there are three fine alpine peaks which form the divide between this valley and the Nostetuko valley.[5]

Any of these would have been a fine climb, but we intended to try the peak just beyond the eastern headwall of the valley. It looked like a long climb and we hoped to leave early the next day, but weather delayed us an hour; we finally got off at 6.40. We detoured across the snout of "Austen Glacier" to get over the river, and then went up the steep headwall of the valley, where we soon hit new snow blanketing the bushes and rocks. On reaching the top of the ridge we found the peak to be still half a mile away to the north, with two large knolls blocking the way. We climbed around the east side of one, which overlooked Tredcroft Glacier, and then descended and went around the opposite side of the other several hundred feet above "Hamilton Glacier". After four hours of almost continuous climbing we reached a patch of snow where we lunched and roped up for the peak ahead. Ascending a steep slope for a few hundred feet we came out on a level snowfield which led to the main rock mass of the peak. In crossing the snow to look for a way up the rock, we noted that the western end of the mountain formed its main mass, pyramidal in shape, and composed of a series of terraces set between pitches of vertical rock which extended from the "Hamilton Glacier", 1000 feet below our snowfield, up to the apparent summit 2000 feet above. A route up here looked difficult and too time-consuming, so we headed east to the lower end of the long northeast ridge, hoping to find an easier way. But this too was disappointing, for

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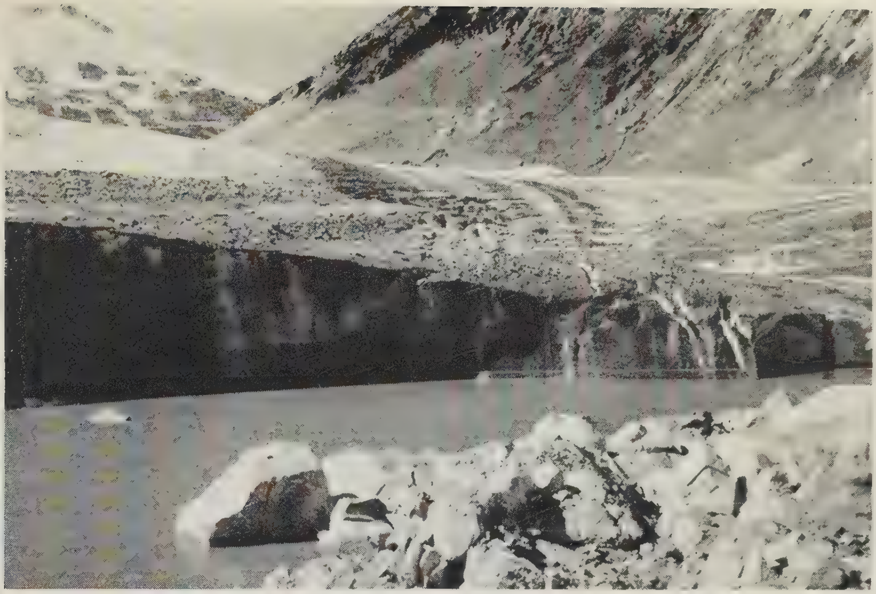
[5] The peaks were named "Consort", "Regal" and "Majestic". See Elfrida Pigou, "Seven Hopefuls around Good Hope", *C.A.J.*, 1954. The author refers to some prominent peaks to the northeast and her map shows that they may include "Mt. Dartmouth" or any of the others at the head of "Torch Valley".

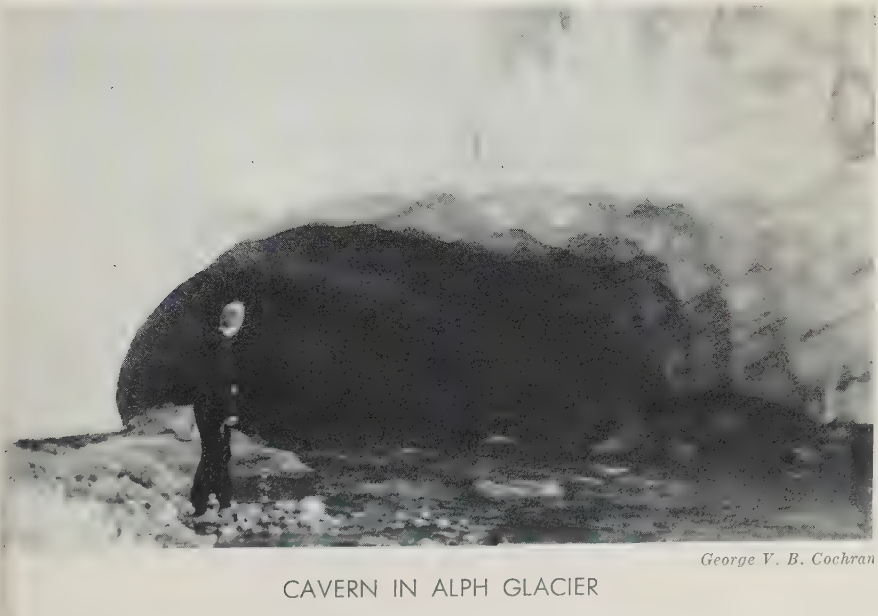
Certain names on our map were later changed to fit the requirements of the Canadian Board on Geographic Names. Thus "Survey Creek" became Alidade Creek with Alidade Glacier and Knewstubb Glacier at its head; "Jewakwa Point" became Nunatak Peak.



George V. B. Cochran

LAKE WITH ICE CLIFF

Foot of Alph Glacier



George V. B. Cochran

CAVERN IN ALPH GLACIER

John Rucklidge

MOUNT DARTMOUTH UP TORCH CREEK

George V. B. Cochran

BEATTY FORDING NINE MILE CREEK

the end of the ridge was vertical and our snowfield suddenly ended in an 80-degree slope which fell 2000 feet to Tredcroft valley and was continuous with the equally steep north face of the peak on the opposite side of the ridge. We were now discouraged, since it was getting late and the face of the ridge had looked unpromising from a distance. Still we headed for it and to our surprise found a spot about halfway along where the face consisted of bits of cliff alternating with steep scree. This led us to the top of the ridge in an hour and we easily followed its narrow crest to the base of the summit pyramid.

Here a more serious problem faced us. A snow slope lay astride the ridge and, starting level, gradually increased to a 60- or 70-degree angle about 500 feet higher. On the left was a cornice overhanging a nearly vertical, snow-filled couloir which dropped to the small snowfield, and 30 yards to the right the slope went sharply off into a bergschrund at the top of the precipitous ice-clad north face. The weather had cleared and the sun had softened the new snow on the surface, so our problem was obvious. At least the slope was concave and abutted firmly on the rock of the ridge in the middle. Dick and I studied it for awhile and on discovering that a firm layer, capable of holding an axe-shaft, existed beneath, we decided to go ahead on the theory, first, that an avalanche would not occur and second, that if it did it would be superficial and we should be able to hold. Although the shape of the slope was in our favor the consequences of being swept off would have been severe. We donned crampons on a hunch and started up, moving as quickly as possible while climbing one at a time, anchoring at each step, and keeping in a straight line above the rock. At the top we were glad of our crampons, for the angle became precarious and the deeper layers icy. It was a relief to reach the rocks, despite the fact that they were so rotten it was almost impossible to find a place to remove crampons. Five hundred feet of fairly steep rock now remained and we went up with great care across several interesting pitches. Although the holds and ledges were large and frequent, they sloped the wrong way and were extremely untrustworthy; too many holds could be picked up and tossed over the side with ease. Since at one point we were forced to go out on the north face about 100 feet up and across some airy, slippery ledges exposed to the whole 4000-foot drop we moved with great care, trusting nothing. At the top of the pyramid we found that the apparent summit was false and the real one lay about 100 yards along a spectacular, but easy knife-edge ridge to the northwest. On reaching it, at 3.00 p.m., Dick and I were quite pleased that we had managed to make another significant first ascent, Dick's first, so close to the end of the trip.

The weather was now perfect and we could see everything. To the south and west the snowfield stretched in apparently limitless waves of snow and rock to Mt. Grenville on the horizon, with the trench of the Jewakwa Glacier just visible on the west. We could see our routes on the snowfield and the black rock of "Cambridge Peak", as well as Waddington, Queen Bess and, in the other direction, Mt. Good Hope, with the rugged country just east of the snowfield and south of Franklin Arm. Snatches of Chilko Lake showed through the valleys to the east. Far below was our camp in "Torch Valley" and the now insignificant appearing sides of "Impasse Ridge". Although they still appeared to be fine peaks, we were looking down also on the mountains at the head of the "Austen Glacier". Unfortunately, all instruments were with the other boys, but by its favorable comparison with Queen Bess and Good Hope we decided that the mountain, which we named "Mt. Dartmouth", was at least 10,000 feet high.

After an hour of making photos, taking bearings, and trying to build a lasting cairn out of the rotten rock, we started down and eventually reached the bottom of the snow slope, where we had left our pack. The snow was now in the shade and hard-frozen, making the descent much more comfortable. The return from here was a joy—via the "Hamilton Glacier" and the snowfields below it, which were perfect for glissading, to the top of the ridge. Then down the valley wall by a route that allowed us to jump down springy grass and slide in scree so fine it could be ridden like an escalator. We watched the sunset disappear and the last of the alpine glow die on Mt. Good Hope before night finally caught us on the floor of the valley and we stumbled into camp after an hour of wandering by flashlight. It was 9.30 and our elapsed time had been fifteen hours.

After another pleasant day in the valley we attacked the bush for the last time, disregarding streams, mud, avalanches, rips and tears. The occasional hardwood trees were now changing color and, although it was only August 28, fall was here; snow appeared on the higher elevations every night. Eight hours after our start, making record time with packs in that three-mile stretch, we arrived at the cabin soaked but satisfied. John and Alastair were waiting, their work complete. In the morning the boat would arrive for us.

FOREST HISTORY OF MOUNT MOOSILAUKE

by J. WILLCOX BROWN

PART I. PRIMEVAL CONDITIONS, SETTLEMENT AND THE FARM-FOREST ECONOMY

IN THE SEVENTEENTH CENTURY the country around Mt. Moosilauke was the home of the Pemigewassets, a tribe of the Nipmucks of New Hampshire. The valley of the Asquamchumauke or Baker River, named by the Indians "place of the mountain waters", was esteemed an especially good hunting and fishing ground, although the richer lands of the Connecticut or the Merrimack were preferred for their small planted clearings. According to legend they frequently camped along the Asquamchumauke near the present village of Warren. The entire landscape was densely wooded, aside from the tiny Indian clearings. With only their small demands for bark and poles, the Indians made little change in the forest scene.

The lower slopes of Mt. Moosilauke were occasionally frequented by Indian hunters and trappers, but the bald crest was avoided, for Gitchie Manito, the Great Spirit, dwelt on the peaks. According to legend, however, Waternomee, last chief of the Pemigewassets, crossed the summit on his way to the Coos intervales in the Connecticut valley, after camping by a beaver pond in Jobildunk Ravine. The rumblings of the Manito in an approaching storm caused him to depart from the cone precipitately.[1]

The inroads of the English on the Indians' wilderness had drawn the Pemigewassets into wars waged farther to the south, but in the latter part of Queen Anne's War the scene of battle shifted to their own terrain. In 1712 Captain Thomas Baker led a party of thirty men up the Connecticut from Old Number Four to the site of Haverhill, where he turned up the Oliverian valley on an Indian path and camped at Wachipauka Pond just west of the present Glencliff. The first recorded white party in

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[1] William Little, *History of Warren, N. H.* (Manchester, N. H., 1870.)

the valley, they went a day's march down the Asquamchumauke, where an Indian village near its mouth was ambushed and largely destroyed. The Indian braves gave chase, but in a pitched battle of large proportions for those parts, which ensued near Bridgewater, Chief Waternomee was killed by Captain Baker. The remnants of the tribe, like many others in that period, moved north to join the Arosaguntícooks at St. Francis, under the wing of the French in Quebec.

For fifty years the Asquamchumauke valley lacked inhabitants other than marauding parties of Indians and English in search of each other's scalps. The journal of Captain Peter Powers, who led such a party in 1754, is of interest for the description he gives of the timber in the valleys near Mt. Moosilauke.

> Sunday, June 23d. . . . On this day's march we saw a considerable quantity of white pine timber, and found it was something large, fit for thirty-inch masts, as we judged. But before this day's march, we saw no white pine timber that was very large, but a great quantity of small white pine, fit for boards and small masts. And on this river (Baker's) there is a great quantity of excellent interval . . . and back of the interval, there is a great quantity of large mountains. . . .
>
> Thursday, June 27th. . . . Some of our men went up the River Ammonoosuck (from its junction with the Connecticut) . . . and they discovered excellent land, and a considerable quantity of large white pines.[2]

Several years later Captain Robert Rogers led a party of his rangers up the Asquamchumauke and built a fort at the Coos intervals in the Connecticut valley. This was the gathering place of his decimated force as they returned from sacking the Indian village of St. Francis in the late fall of 1759. Little[3] recounts that Robert Pomeroy and another ranger set out to cross Mt. Moosilauke in order to reach their homes in the south, but that Pomeroy died of cold and exhaustion on the summit, while the other ranger was discovered "at the foot of the Seven Cascades" and restored by an old trapper. Aside from this incident Rogers' expedition was significant for the history of Mt. Moosilauke in that it quelled the Indian threat and permitted English settlement of the New Hampshire north country.

Period of Settlement, 1760-1840

Benning Wentworth, royal governor of New Hampshire from 1741 to 1767, conceived an adroit scheme to enhance his fame and fortune through the granting of lands in the wild, rugged parts of his province which had been somewhat explored during the French and Indian forays. Settlement of the granted lands was stipulated, for the shrewd governor realized that only thereby could the grantees pay their annual rents for each 100-acre lot, consisting of an ear of corn during the first ten years and a shilling forever thereafter. Also, as Surveyor General of the King's Woods, he had a particular concern for the supply of white pine. Thus we find these two notable clauses common to all the charters:[4]

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[2] Grant Powers, *Historical Sketch of the Discovery, Settlement, and Progress of Events in the Coos County and Vicinity.* (Haverhill, N. H., 1841.)

[3] *History of Warren, N. H.*

> I. That every grantee, his heirs or assigns, shall plant and cultivate five acres of land, within the term of five years, for every fifty acres contained in his or their shares or proportion of land in said township. . . .
>
> II. That all white and other pine trees, within the said township, fit for masting our Royal Navy be carefully preserved for that use, and none to be cut or felled without our special license for so doing first had and obtained. . . .

In this manner charters were granted in 1763-4 for the towns of Warren, Peeling (now called Woodstock), Coventry (now Benton), and Landaff (the east half of which was later separated to form Easton). The summit of Mt. Moosilauke, Mt. Clough, and the Benton Range lie in Benton; the southern slopes reach down into Warren; the eastern slopes, including Mt. Waternomee and Kinsman Notch, are in Woodstock; while Landaff and Easton stretch north of the Wild Ammonoosuc River.

The first job of the proprietors was the delegation of a party to run and mark the town boundaries. This task necessitated traversing some rough country. The journal of the Peeling committee gives us their reaction to a crossing of the Blue Ridge of Mt. Moosilauke in November, 1763:[5]

> . . . we measuring on till we found peeling Corner or run our Compliment of miles and Rods and found very bad land and incamped Seventeenth day and at night it Snowed before day the Eighteenth day we set out for home and found bad land for way and incamped nineteenth we Struck pemissawasit river and following it down to the mouth of Bakers river Crost Bakers river on a raft and came to Plymouth.

In connection with the running of the Warren lines in October, 1765, Little makes an interesting reference to some of the timber:[6]

> The land in the valley was good, and the great pine trees on the plain, where the common is now, some of them more than

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[4] *State Papers of New Hampshire,* edited by Albert S. Batchellor, Vol. 24. (Concord, N. H., 1894.)

[5] Lucien Thompson, "Account of Journey of Committee of Original Proprietors of Township of Peeling." *The Granite Monthly,* Vol. 39 (1907), 415-8.

[6] *History of Warren, N. H.*

> two hundred feet high . . . were the objects of their especial admiration. But they could only admire them. The surveyor of the *king's woods* had marked them with the *broad arrow* and they could only be used for *masting the royal navy.*

The next duty of the proprietors was to secure a surveyor to lay out the town in 100-acre lots. These were then drawn by lot by the proprietors, a certain number to each right or share. (Each charter usually had sixty to seventy grantees, in addition to full shares "for the Incorporated Society for the Propagation of the Gospel in Foreign Parts, for a Glebe for the Church of England as by law established, for the first settled minister of the gospel, and for the benefit of a school in said town forever".[7]) Coventry (Benton) experienced the most difficulty in surveying and allotment, for although the town "was ample in territory, . . . it was not territory attractive to settlers . . . and nearly one-seventh of the entire township was inaccessible to the hardy surveyors of the latter part of the eighteenth century, and was never divided into lots, but remained for a century or more undivided non-resident lands".[8] The existence of undivided land in Coventry was a unique circumstance which had entertaining echoes and significance for the logging operations one hundred years later.

The clearing of land for the first home in Warren is thus described by Little:

> The first week in October he fell an acre or more of trees. The Indian summer dried them, and setting them on fire he got an excellent burn. Before snow fell he had cleared the ground ready for planting the next spring.

At the time the forest was of no value except for building cabins, but rather was man's enemy because it blocked the land from cultivation. This attitude toward the forest was accentuated by a vote of the proprietors on March 25, 1771, "to give each person as shall fall trees in the township of Warren this year half a dollar per acre" (Little). The technique of "falling a piece" or "driving a piece" became rather highly developed, though it was a hazardous task. A series of trees would be notched and a large pine dropped on them to carry down the whole line. In this way "two smart men would fell several acres a day". But occasionally a "drive" would hang and have to be freed. John Mills was crushed by a falling tree in such an endeavor in 1779.[9]

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[7] *State Papers of New Hampshire,* Vol. 24.

[8] William F. Whitcher, *Some Things about Coventry-Benton, N. H.* (Woodsville, N. H., News Print, 1905.)

[9] Alonzo J. Fogg, *Statistics and Gazetteer of New Hampshire.* (Concord, N. H., 1874.)

It is fruitless to surmise what value in white pine must have gone up in smoke from the earliest settlers' clearings.

In 1767 and '69 there was discussion in Warren of setting a bounty for a sawmill, to encourage speedier settlement, but not until 1776 did a mill materialize.

> The dam was built of great pine logs. . . . The mill itself was simply a heavy frame of hewed logs, unboarded of course, and the roof was covered with long shaved shingles. Then there was a pause in the work,—the mill irons must be brought up from down country and a saw must be procured. . . . In the spring the mill was finished, and the music of its wheel, driven by a fourteen-foot waterfall, the click of the cogs on the log frame, and the clip of the saw gnawing through the pines, which the settlers sawed up regardless of the "broad arrow mark" upon them, sounded for the first time through the pleasant woods of Warren. (Little.)

Even by 1840 the early settlers, although men of great enterprise, had wrought little change in the primeval aspect of the Moosilauke tract. Their interests were almost exclusively devoted to farming, which yielded results on a bare subsistence plane. As shown on Carrigain's map of 1816, there were four mills fringing Mt. Moosilauke: one in Warren, one near the Warren-Coventry line, and one each in North Coventry and Woodstock. But these were water-driven up-and-down saws with a very low annual capacity. Also, the lack of transportation facilities and the presence of adequate timber supplies "down country" restricted the lumber business to the local market. This was primarily custom-sawing, with the farmers bringing pine from their clearings as they needed it for their buildings. It is doubtful if much cutting was done in addition to the land-clearing efforts. The pine may have been pursued as a favorite species. Even this could not have been carried to extremes, for Warren common was not cleared until 1859 and at that time large pine stumps had to be removed.[10]

The Farm-and-Forest Economy, 1840-1890

By 1840 the ground had been prepared for a flourishing of rural life in the communities surrounding Mt. Moosilauke. The first settlers and their children had cleared much of the land. With this immediate obstacle removed, the succeeding generations had opportunity to concentrate on more productive activities. Their farms began to yield a little revenue. Through thrifty accumulation it became possible to consider other enterprises.

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[10] Hamilton Child, *Gazetteer and Business Directory of Grafton County, 1709-1886.* (Syracuse Journal Co., 1886.)

The significance of the high points of clearing attained on the mountain during this new period is that they were made in connection with farming or small milling operations. But the tides of clearing and cultivation flowed unevenly. Settlement was already receding in the western part of Woodstock before the advance points in Easton and Benton had been reached. The beginning of the Civil War seems to have marked the abandonment of the Mt. Cilley and Elbow Pond settlements.[11] The forest recaptured the land rapidly, providing dense stands of old field spruce by 1910. Along Moosilauke Brook, however, some clearings have persisted to the present.

The extensive nature of cleared land at the agricultural peak is best demonstrated by comparison with the situation a half-century later. Of the total area in Grafton County about 65% was in farms in 1880, and of this 60% was "improved". In 1935 only about 35% of the county was in farms, and the proportion of improved area had dropped to 26%. The total number of farms declined from 4,794 in 1880 to 2,504 in 1935, leaving the average size of farms nearly the same though with a smaller proportion of cleared area.[12] For New Hampshire as a whole, the proportion of land area in farms had declined from 64.8% in 1860 to 36.6% in 1935.[13]

The era of prosperity would have been even briefer and of much smaller proportions had the mountain communities been strictly self-contained. But when transportation of bulk goods at low rates became possible there came a chance of tapping the vast and previously little-recognized timber resources. The Boston, Concord and Montreal Railroad was built through Warren in 1851, and later a branch line was extended from Plymouth to North Woodstock. In addition to the opportunity that it afforded for transporting lumber and logs to the markets farther south, the railroad directly increased the demand for wood. For approximately the first thirty years the locomotives running through Warren were wood-burners. For the first time there was an intensive demand for hardwoods. The town had its first French-Canadian labor when a settlement of wood-choppers was established on the side of Mt. Carr. With the use of the waters

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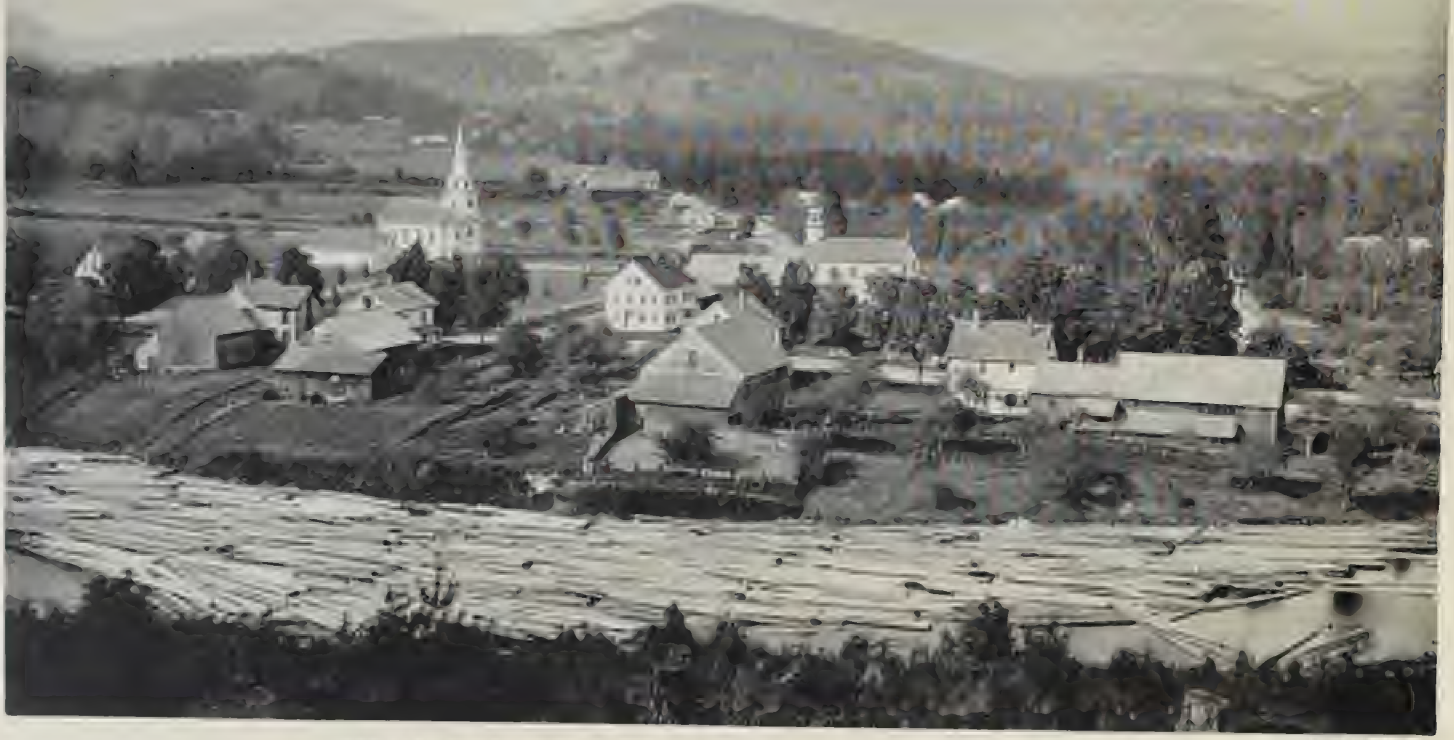
[11] These were originally made chiefly in the 1820's. It is said that such hilltops were settled because the ashes from the hardwoods there gave the best agricultural land. Mt. Cilley, west of Elbow Pond, at one time boasted forty pupils in the local school, due to the large families then prevalent.

[12] W. J. Latimer and others, *Soil Survey of Grafton County, New Hampshire*. Washington, D. C.: U. S. Department of Agriculture, Bureau of Chemistry and Soils, Series 1935, No. 6.

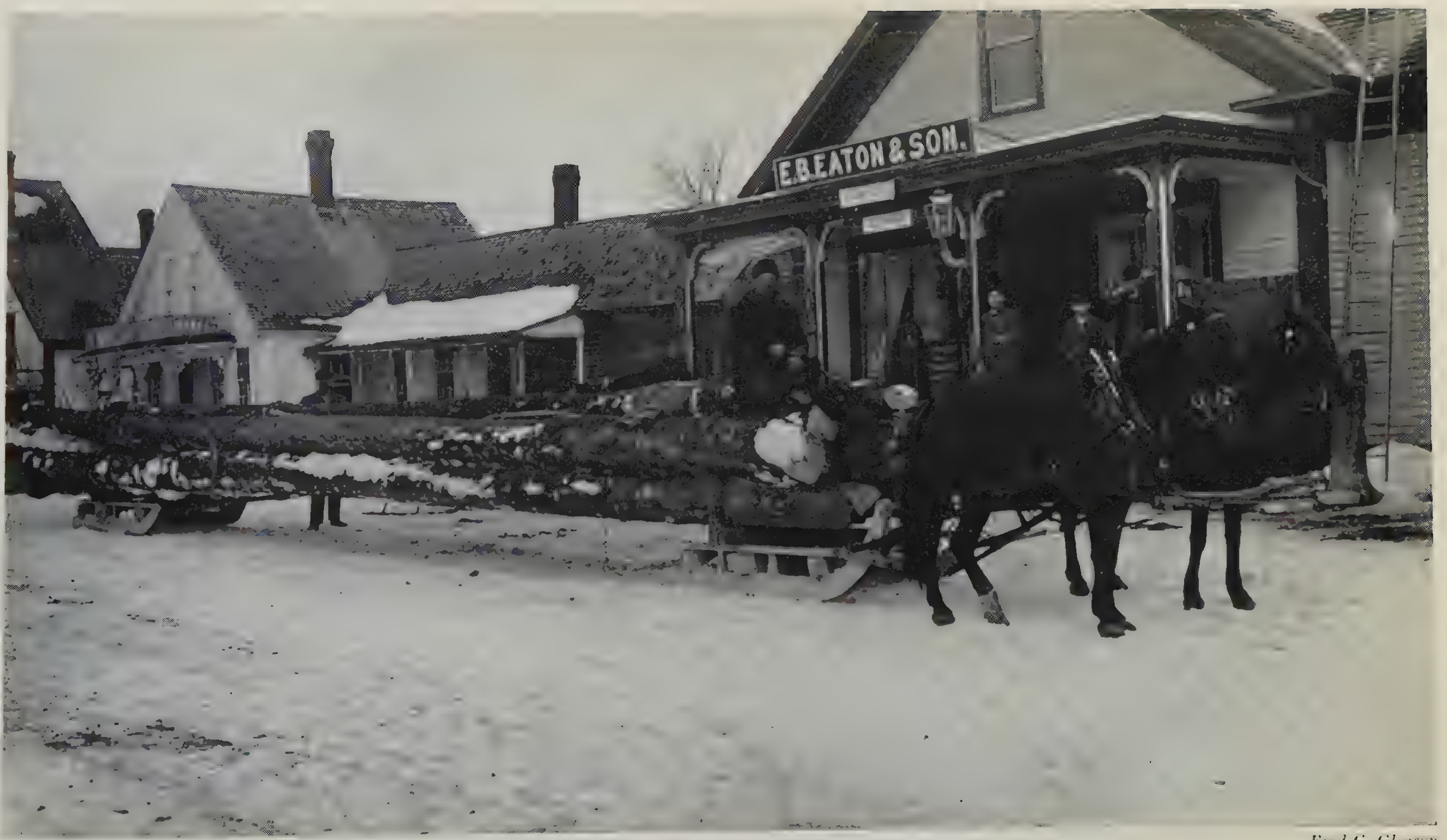
[13] *U. S. Census of Agriculture Report,* 1935.



Fred C. [illegible]

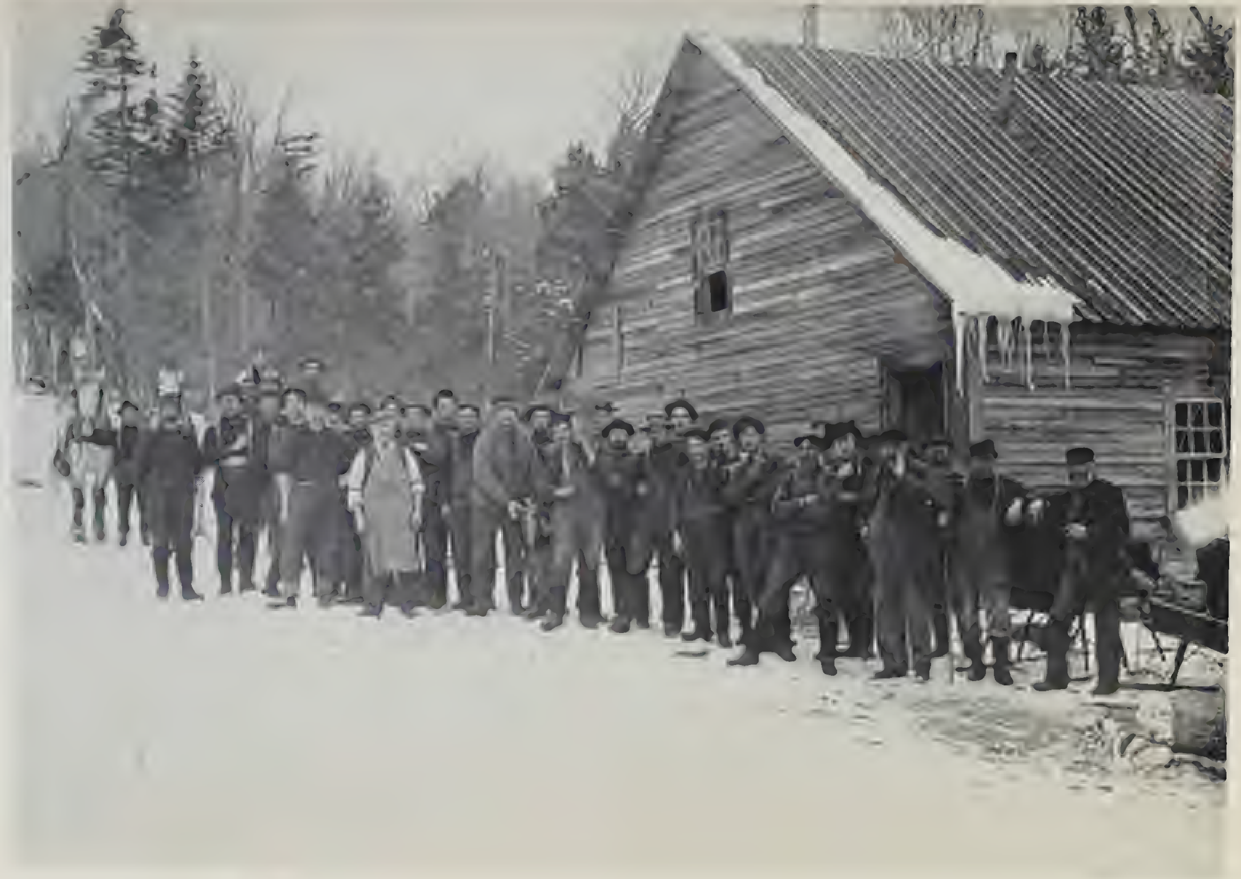
SPRUCE LOGS IN THE MILLPOND AT WARREN, NEW HAMPSHIRE

Mount Moosilauke in the Background



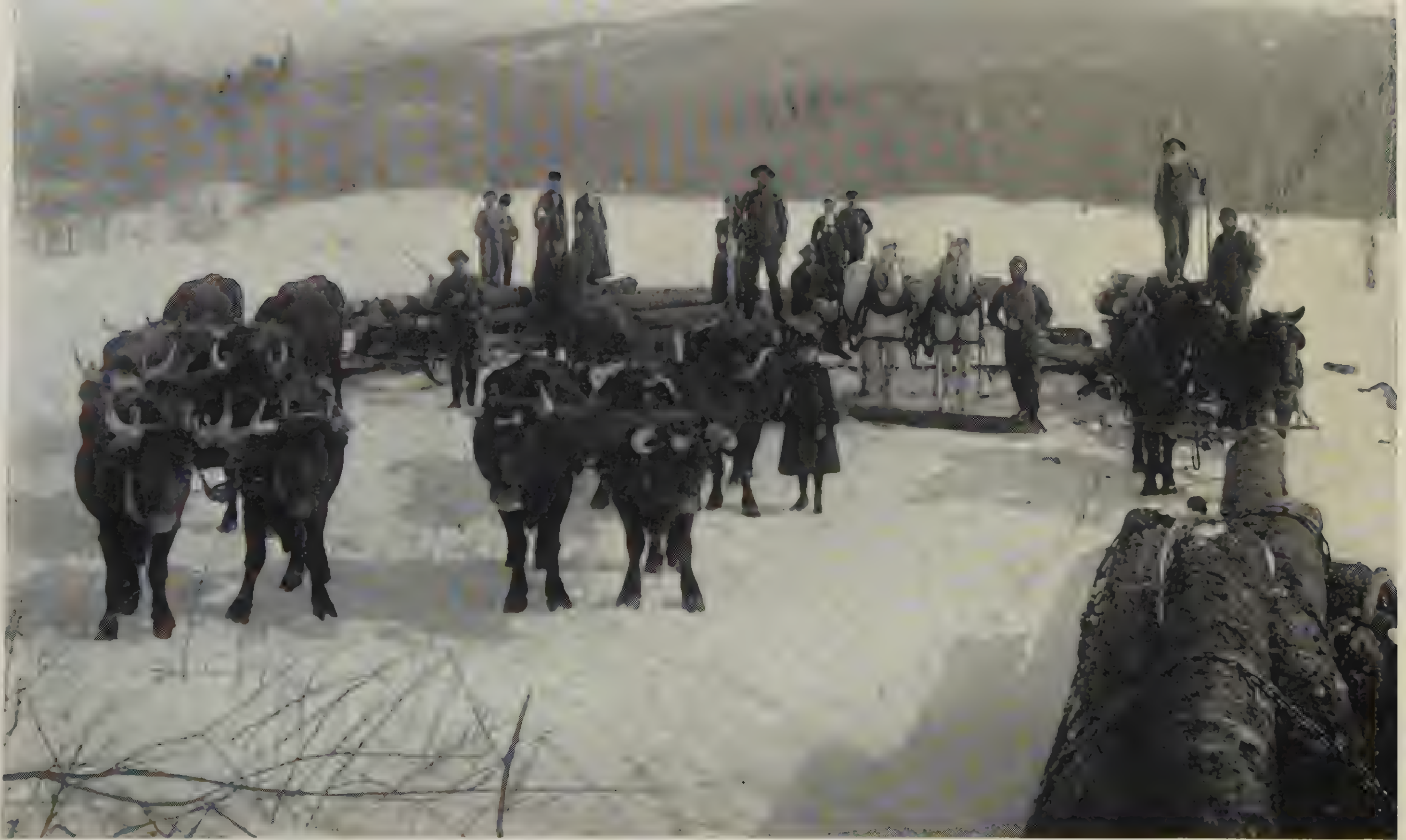
Fred C. Gleason

A LOAD OF SPRUCE ON THE OLD-FASHIONED THREE-BEAM SLEDS



Fred C. Gleason

A LOGGING CAMP AND CREW IN EAST WARREN ABOUT 1890



Fred C. [illegible]

HORSES AND OXEN AT THE TRANSFER POINT IN EAST WARREN of Patch Brook the cordwood was sluiced down a thousand feet to the valley below. (Little.)

Some expansion in the number of sawmills had occurred before the impetus was given by the railroads. Yet clearly it was the opening of the B. C. & M. R.R. that gave rise to a lumber business ranking as the number one local industry and to a logging enterprise which supplemented farming and gradually eclipsed it in importance. Naturally the most prompt response was closest to the railroad. Several mills were developed in Warren, and even more in East Warren. Water-power was the prerequisite, and nearly every stream crossing the road leading "out east" along the Asquamchumauke sooner or later had a mill near its mouth. There were also several mills at Warren Summit or Glencliff. Fogg[14] lists the annual production of lumber in the township of Warren as six million feet, in addition to shades and bobbins. Despite their greater distance from the railroad, however, many a mill has turned in north Benton and the Wild Ammonoosuc valley. Fogg gives the annual production for Benton as one million feet, and for Landaff as three million plus 450,000 feet of clapboards. For some reason the small mills seem to have been less numerous in Woodstock than in the other townships.

The earliest mills were fitted with long straight saws of the up-and-down type. All were water-powered and used the overshot type of wheel. These wheels were of crude construction, of large diameter, not encased, and of the kind popularly associated with old milldams. When the rotary or circular saw and the turbine wheel were introduced, by no means all the mills changed their equipment promptly. However, by 1870 up-and-down saws were extremely rare, and in 1880 the last overshot wheel of which we have a record went out of existence. The best of the modernized water-mills were able to cut 8,000-10,000 feet per day, at the flood peak.

The water-mill was well adapted to the needs of the small operator cutting in his own woodlot. Steam-power is not known to have been introduced till later than 1870. Individuals had to build up a considerable saving before they could afford the capital cost of a steam engine. Often steam-mills were not undertaken except by groups of individuals or small companies. Steam had the advantage of greatly enlarging the productive capacity of a mill, but it made impossible the casual type of seasonal operation carried on by the water-mill, for the larger investment must be retired.

The units logged during this period were small, irregular and scattered. The initial method of parceling out lots had resulted in a highly diversified ownership pattern. Usually it was possible for an owner to swap or purchase in order to secure contiguous holdings of two or three hundred acres, but Yankee individuality prevented any aggregation of territory much larger than this before the close of the period. Since under these conditions large operable units of timber could not be built up in a short time, it was necessary to find additional means of keeping the mills supplied. Stumpage was purchased from lot-owners who did not have the equipment or the desire to log their own lands. Farmers who did not have their own mills logged their lots and sold logs to the mills.

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[14] *Statistics and Gazetteer of New Hampshire.* (Concord, N. H., 1874.)

The industrial life and the agricultural life of the community became closely dovetailed through the farming and logging combination. Any farmer with a yoke of oxen or team of horses could find all the work he wanted in the winter. Many of the men who were busy in the mills or as farmhands in the summer worked in the small logging camps in the winter. There does not seem to have been much of a floating population. Saw-milling and farming were the spring and summer occupations, with attention concentrated on getting out the logs in the winter. The larger mills had storage ponds; the small water-mills ran only in the high-water seasons.

The development of roads was basic to this small-mill logging. Since most of the logging was done in the winter, crude tote-roads were ordinarily sufficient. Skidding and a good deal of the hauling were performed by oxen in preference to horses. The farmers rated the ox highly for his steadiness in deep snow and his ability to tread through it. The yoke and chains were much simpler and cheaper than the harness of a horse. The disadvantage of the ox was his slower gait. Therefore horses were commonly used where a long haul on a good sled-road was involved. In such cases there was usually a log-yard where the loads were transferred from yoke to team. The oxen would bobsled (single-sled) a load down a steep skid-trail to a landing or skidway from which the logs could be rolled onto the double sleds behind a waiting team. Because of the lessened friction in double-sledding larger loads could be handled.

Animal transportation was the standard method in use in this period. The streams lacked sufficient water to be drivable, while railroads were an unthinkable expense for small-scale operations. Flumes or sluices had been successful in one instance, on Carr Mountain, and a failure in another, at Elbow Pond. Chutes or earth-slides had been tried on Carr Mountain and on Mt. Kineo, but the results were unsatisfactory because of the large number of logs which revealed splintering after they had been sawed.

Lumber was by far the most important product of the operations from 1840 to 1890, and spruce was the outstanding species. No pulpwood was cut during this period. In addition to rough lumber and clapboards (the latter of little importance by 1880), there were a number of special products. Spruce oil was distilled from the green boughs by steaming in large vats; the oil had a good market for liniment. Shingles were produced in quantity during the early part of the period, but declined in importance after 1870. Small cooperage shops existed in Warren at one time, one of them specializing in high-quality butter-tubs, while sap buckets of lower quality were made for the sugar trade. The best of the spruce butts had a special use as piano sounding-boards. Since the boards had to be entirely cross-grained, the logs were usually quartered and sawed into small pieces, which were later glued together. The finest-grained logs gave the best tone, and slow-growing trees from the slopes were preferred to those from the lowlands. The tallest and straightest spruce from the southern part of Moosilauke found another preferential market as spars or masts. These were shipped on flat cars, two or three cars being necessary for the biggest spars, which were 100 feet long and tapered from a two- or three-foot butt to an eighteen-inch top.

Hardwoods were little used for lumber. Ash was a preferred species for agricultural implements and was cut where found in clumps. With the exception of the railroad-fuel cuttings on Hurricane Mountain, most of the hardwoods were left standing. The use of high-quality beech, yellow birch and sugar maple for carriage parts, furniture, bobbins, window shades and shoe pegs had little effect on the Moosilauke stands, because the small volume of timber required was obtained largely from tracts close to the villages. Window-shade stock was bolted in the shade mill on a rotary saw and cut into thin slats with an up-and-down saw. The slats were then farmed out to housewives who wove them into shades. Maple syrup and sugar were important hardwood by-products. Sugar orchards were listed as noteworthy assets in valuation of land and were worth considerably more for sugar than for lumber.

By 1890 the small-mill economy was on the verge of extinction. Yet, although the more accessible lands had been cut over, only a few of the mills had cut themselves completely out. The relative abundance of timber in New England had held down stumpage values to such a low point that a policy of selecting only the larger and better trees had been an economic necessity.[15] Much spruce of medium and small size and much hardwood remained. In places the spruce were noticeably scarce, but farther up the mountain the selective system of cutting had promoted excellent growth in the spruce-slope type. In a map based on a survey of forest conditions in the White Mountains in 1894, Joseph B. Walker, forestry pioneer of New Hampshire, portrays the extent of cutting at that time.[16] The great mass of the mountain was still "virginal forest". Walker gave a vigorous comparison of the "conservative" and "destructive" systems of forest management then prevalent. Presumably the "secondary forest" on his map indicates the areas which had been handled in the latter way. Raymond B. Stevens, in giving the writer an account of a boyhood fishing trip to Beaver Meadow about 1890, observed that the woods in that vicinity were in magnificent condition as a result of selective logging.

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[15] The diameter-limit varied markedly at different times and places, the earliest and most remote jobs having the highest limits. Under some conditions any tree below eighteen inches was considered a small log; elsewhere the limit ranged between eight and twelve inches.

The fact that the big companies later acquired the cut-over lots on the north side of the mountain indicates that these must have been left in a condition of some value. Whitcher (1905) gives a succinct explanation of the failure of the small owner-operator to hang onto these lots: "the lumber industry was becoming less and less profitable as railroads were extended into the forests of Coos and Carroll counties". The unequal opportunity of the small operator to compete was based chiefly on transportation costs and lack of capital for large-scale milling facilities.

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[16] "The White Mountain Region", an address delivered before the American Forestry Association at Plymouth, N. H., on August 24, 1894. (Concord, N. H., 1895.)

(To be concluded)

SNAPSHOTS OF WILDLIFE

by Milton E. MacGregor

Sketches by Mary Ogden Abbott

When camping, I often liked to take a flashlight and walk into the woods in the evening. I would flash the light down a trail, snap it off, and walk as far as I had been able to see. Then I would flash it on again, and so forth.

Once, when flashing the light on, I saw a skunk just turning to meet me. I halted immediately and aimed the light downward, so that I could keep him in sight without throwing a beam directly upon him. He paused a moment, then started down the trail away from me.

An instant later I heard a grunt, answered by some other animal. Throwing the light up ahead of me, I saw a porcupine face to face with the skunk. They talked to each other for some time, and it was clear that each thought the other should make way for him. I wondered which would win.

To my surprise, it was the skunk who moved to one side, entered the woods, and returned to the trail after passing the porcupine. But I was glad enough that he had decided not to fight for his rights, for if he had used the armament he possessed an innocent bystander would certainly have suffered.

Milton E. MacGregor, "Red Mac", joined the Club in 1916 and is now a life member. He was a hutman for many years and became the first manager of the hut system as a whole, having had a great deal to do with furthering the idea of such a system. Subsequently he was for some years manager of Cold River Camp. Probably no one has a more intimate knowledge of the White Mountains.

One night in camp I was awakened by a sharp screech. I jumped out of bed and swung the flashlight in the direction of the cry. It showed a porcupine in a fight with a wildcat.

The porcupine had just slapped the cat with his tail and the cat made into the woods howling, his face filled with quills.

But the porcupine hadn't come off without a scratch, for in the morning we found the scene marked with bloodstains as well as quills.

During one season when we were at Cold River Camp there was a colony of beaver somewhat beyond the height of land in Evans Notch. It became a favorite form of evening outing to visit this colony and watch their operations by flashlight.

On one occasion Mrs. Mac and I dropped in late at night to see what was going on. We heard beaver cutting away at trees, but could see none. I stood between the sound and the pool, in the runway which they used, while Mrs. Mac went slowly back into the woods.

Suddenly we heard a noise like a galloping horse and Mrs. Mac called out, "Here comes one!"

I flashed my light and saw a large beaver headed straight for me, as I stood in the runway. Spreading my feet apart, I held my ground. The beaver ran between my legs, dove into the pool, and disappeared.

A party from camp were out for a day's walk. Suddenly the leader stopped, listened, and exclaimed, "I thought I heard a kitten cry".

In a moment several others remarked that they heard it too. And on looking about they found, not far away, a small wild kitten, moving awkwardly and mewing.

There was some fear that the mother cat would make trouble, but it appeared that Mother was not about.

One of the men emptied the contents of his pack into another's and set out to catch the kitten. This he did, with the help of the others, and the kitten was carried back to camp in the pack.

A cage was built, and we started in to tame our new pet. It was fun to feed him, provided you kept your fingers away from his sharp teeth. He seemed to feel that your hand would be just as good eating as the food you offered him.

At first he never tried to get away, but would follow us around camp in the hope of being fed. One girl in our group was especially fond of him and these two would play together as children play with house kittens. Only, as this kitten did not learn to conceal his claws or to close his teeth gently, much caution was needed in the play.

Game wardens and foresters came from miles away to see our pet. But only for a short time. One morning he was gone.

One day at Pinkham Notch some trampers came down from the mountain with word that a bear was swimming in the pool at the foot of Crystal Cascade. Having learned to be skeptical of trampers' stories, we thought this was just a call to get us up to the Cascade for nothing, until one of the party produced a gold watch and offered to let us take it and keep it if the bear was not there. So we took some rope and went up the trail.

Sure enough, a bear was in the pool, moving about and unable to get out upon the land. We climbed down into the gorge and were able to lasso the bear and pull him from the water, when we discovered that he was dead. He had not been swimming, but was being carried about by the swirling current. He had evidently killed himself by a fall from the high cliffs above.

In order not to have our trip and labor for nothing we carried the body down to the hut and braced it up just where the trail passed around a corner of the building. Then for the rest of that day we enjoyed the shouts and screams of trampers as they rounded the corner and came practically into the outstretched paws of the bear.

Evening came on and we wondered what to do with our bear. We decided to try to collect a bounty on him. (At that time New Hampshire paid $5 for killing a bear.) We loaded the body into the camp truck and drove to the home of the town clerk in Gorham. He came out in the pitch darkness, felt the fur, and went in and wrote us out a check for the bounty.

When we asked what we should do with the bear, he said, "I don't care so long as you don't leave him here". We debated whether to take the bear on to another town, to collect a second bounty, but decided that enough was enough, and next day buried the bear with impressive ceremonies.

WITH PADDLE AND NOTEBOOK IN THE NORTHWEST TERRITORIES

by LAURA W. R. APPELL

MY HUSBAND, AN ANTHROPOLOGIST, and I had planned to spend the summer of 1957 making an ethnological survey of some of the Indian tribes living along the Mackenzie River in the Northwest Territories of Canada. It seemed to us that it would be a great deal easier to create mutual understanding between ourselves and the Indians if we lived as close to the natural environment as possible, considering that we were "university soft", so that we should feel the full impact of this difficult environment, as do the Indians, unmediated by many of the so-called modern comforts. If we were to complete the survey we wanted to make we could not go native completely and live off the land, as that is a full-time life in itself. For this reason, we carried our own food. However, we could go down the river by canoe, unassisted by an outboard motor, and live as close to nature as possible. As we are great lovers of the outdoors and camping, this was to us a highly attractive idea in itself as well as from the point of view of cost and practicality.

Our goal was eventually to reach Fort Good Hope, one of the northernmost posts along the river, and then to portage the canoe and our gear into an inland lake where there was an interesting and untouched band of Athapaskan Indians for study. As it turned out, we changed plans about a third of the way along the river in order to go with a group of Indians to the east of the river, on what was probably one of the last caribou hunts, so we never got to see the river in its entirety.

The Mackenzie River is the second longest in North America. It flows north-northwest from the western shore of Great Slave Lake to Mackenzie Bay on the Arctic Ocean, and is navigable for its entire length. The width and speed of the river vary; at the beginning the current is slow, only about two miles per hour, but in some places farther along there are rapids with a speed of up to ten miles per hour. Two wide places or lakes are encountered between Big Island, where Great Slave Lake flows into the Mackenzie River, and Fort Simpson, about 200 miles farther down. In other places the river narrows to less than one-quarter of a mile, with steep banks which are usually covered with trees of small to medium size—conifers predominating, while willows and birches form the bulk of the deciduous trees.

LAURA W. R. APPELL graduated in 1955 from McGill University, where she was an active member of the Outing Club, doing much cross-country skiing in the Laurentians. She is deeply interested in ornithology, and has taught general nature topics at the resident camp of the Massachusetts Audubon Society in Barre, Mass.

For many years the river has been a highway in the North for the klondikers, trappers, traders, prospectors, miners, etc. Perhaps the people who have used it most are the men of the Hudson's Bay Company, who established meat posts along the river, using the great herds of caribou in the same manner as the railroads used the buffalo in the early days of the West. Much of the land has been shot off by these people, and for this reason the wildlife in the area is scarce save for waterfowl, of which there is a great deal. During the summer the Indians themselves eat little else but fish, bannock and the occasional duck. Because of this scarcity of wildlife, and as the white man is only allowed to fish, since game is reserved for the Indians, it is not wise to anticipate living off the land on such a trip. Furthermore, the fish are not so choice or so numerous as in some other northern rivers, due to the amount of sedimentary material carried by the water.

There are few edible wild plants in the area but when the berries ripen in large variety, at the end of August, an Indian child is seldom seen without an old tin can full of them and his face and hands stained with berry juice. During this time white men and Indians flock to the woods, regardless of the many insects, to satisfy their craving for fresh fruit. Fresh vegetables are grown at some of the posts and most of the garden-owners are generous with their produce.

As to outfit, obviously we had to travel light, yet we had to have a canoe which would be big enough to take heavy waves on the lake and river. The canoe we decided on was a Peterborough River Model. It was 17 feet long, weighed 85 pounds and was supposed to carry up to 800 pounds. Food we carried in two rubberlined duffel bags and the rest of our equipment we fitted into several packs and musette bags. All this could be strapped on to three pack boards; when in the canoe these were laid side by side on the bottom, making an ideal floor which would prevent the packs from sitting in water, should we ship any in a wind.

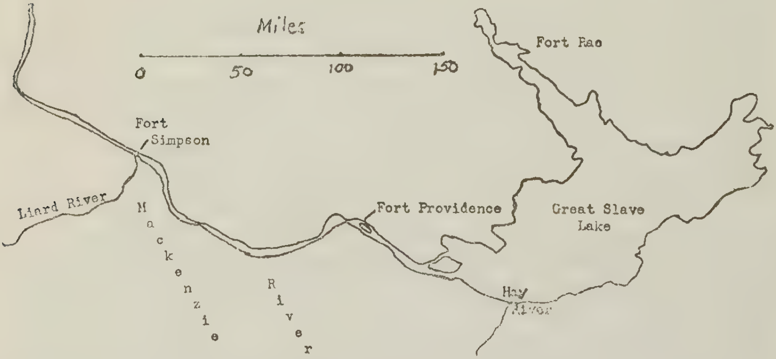
Our tent was an English one, especially designed to keep out insects. It had a ground sheet which laced in and a dew cloth which tucked under the ground sheet. The front was made of mosquito netting which zipped up the middle. The only trouble with it was that it proved to be very un-mosquito-proof. The beasts would crawl under the dew cloth, back between the dew cloth and ground sheet, and so into the tent. We were forced to turn back on our first day out in order to buy some materials at the Hudson's Bay Company store for rectifying this unhappy situation. I then set about adding a yard of cloth to each part of the dew cloth so that all four sides would meet in the middle, making a second floor to the tent. The overlapping corners were then pegged down with tenpenny nails so that no insect, no matter how ingenious, could possibly burrow under and get in. We had the marauders licked and from then on slept in peace, though eating and bathing were still rather uncomfortable.

Mosquitoes are a real problem in the North. We had been warned many times about their virility but I maintain that nobody will ever realize the meaning of being plagued by them until he has had the experience of being surrounded by so many that he can neither see, hear nor breathe, and is so covered with red welts that he is going crazy from the itching. They will get inside everything, including head-nets, and they can bite through any clothing, sometimes as many as three layers thick, if it is tight on the skin. We often used our gloves and hats for mosquito protection, the hats to hang our head-nets on when they got particularly bad. George, my husband, found that the mosquitoes bit his scalp because of his short hair and consequently wore his hat constantly. Repellents are some help, but they are not the whole answer. The one we found most effective is a new one called "Off"; it lasts for some time and is greaseless, and for this reason we chose it for our faces and hair. "6-12" in stick form was used successfully on our ankles and hands, which were often getting wet, as it has an oily base which will not wash off in water. The natives are bothered by these pests as much as anyone. For repellent they use a smudge of green willow twigs. The insects were particularly bothersome when we were trying to bathe. The water was often too cold for us to submerge entirely and the horseflies especially seemed to like to eat wet flesh, so we had to take turns keeping watch over each other and warding off these carnivorous insects.

Food in the North is very expensive due to the fact that everything has to be brought in by barge during the three summer months, when the water is open for travel on the lakes and rivers, and for the same reason fresh meat and vegetables are scarce at the Hudson's Bay Company's stores. So we had to buy food which would last all summer, and which was light. Besides quantities of the usual dried foods that a camper takes with him, we tried to think of some things which would be tasty for desserts, and to add variety to the meals in general. Packaged gelatine desserts and cornstarch puddings would jell if left over night in the cold water of the river and seemed as exotic as *crêpes Suzette* or *bananes flambées* when eaten after a meal of fried ham, beans and scrambled powdered eggs. Another item of food which proved very successful is a Pennsylvania Dutch dish of dried corn which, when boiled with milk and brown sugar, is one of the most delicious dishes imaginable. Cheese also provided variety with many dishes, and made powdered eggs, which are not normally very palatable, more edible. "Bisquick" mixed with water and fried or baked in the hot ashes made a delicious bread for breakfast, and we often made enough to take in the canoe for lunch. Cornbread cooked in the same fashion was sometimes substituted. Hard salami was our emergency ration for times when it seemed impossible to find a place to stop and build a fire in the evening.

On July first we put our new, neatly loaded canoe into Great Slave Lake at the post of Hay River, on the south shore. As it turned out, we had picked a most propitious time to start our trip, as the ice had left the lake only about two weeks before. Fort Providence, 75 miles away, was our first port of call, and we figured that we had about five days of travel ahead of us before we would again see human beings.

The lake is a large one and to us on that first afternoon it assumed the proportions of the Atlantic Ocean. Canoeing on the lake is not generally dangerous but a wind can spring up with very little notice and in no time produce waves large enough to swamp the canoe. For this reason we found it necessary never to stray far from shore since, if such a wind should arise, we might have to paddle against it in order to reach safety. To a large extent the shores of the lake and river are lined with marsh grass and we discovered that by weaving our way through channels in this grass we could make headway even with the wind against us, and the grass would cut down the size of the waves.



Because much of the shore is composed of damp marshy ground, camping spots were likely to be at a premium. If it was a warm evening with no wind, there was no reason for concern over this. We would merely lodge the canoe in the grass, eat a cold supper of our emergency rations of salami and dried fruit, and then push on—if necessary, all night. At that latitude the sun sets for only about an hour at midnight (a thing which many people would find disconcerting when trying to sleep), but the sky is never totally dark. Paddling on like this was very delightful and one could cover a great deal of distance.

If, on the other hand, it did not look like a pleasant evening, a camping spot had to be sought more earnestly. First, we had to keep our eyes open for points of land, as they often have small sand or gravel beaches which are blown free of insects. (For camping, gravel is preferable to sand, which can be as hard and unyielding as concrete.) Remnants of an Indian camp were also a good indication that a place was suitable; however, it was better to avoid the exact spot that the Indians used, if possible, because they are not particularly clean. If no possibilities seemed to present themselves, and it was too stormy to go on, the only thing was to rack one's brains and try to remember possible spots passed during the day that would be within a manageable distance. One evening, when this happend to us, it seemed as though we were going to have to spend the night in the loaded canoe. We had been paddling into the wind for several hours, making very little headway. We realized that we had not passed a single place to camp for a long time, and that our prospects looked no better ahead. The wind was growing stronger, we were getting more and more tired by the minute, and were making less and less headway. Suddenly George, whose knowledge of ornithology and ecology is not slight, remembered that a while back we had passed a group of small islands which looked low and swampy, but which were surrounded by hundreds of terns. Terns nest only on open sand or gravel near the water and, since this was the mating season, it seemed logical to suppose that they had built their nests on those islands, and that so many had congregated there indicated that there was probably no other place for them to nest for quite a distance. We were still on the lake, so we could turn around and use the head wind, which we had been bucking for so long, as a tail wind. We blew down to the islands and a camping place in almost half the time it had taken us to go in the other direction. As we landed, the terns set up such a racket that we wondered if we should be allowed to stay. But after a while they got used to us and quieted down. We had a difficult job putting the tent up, because each time we chose a site and started in we found that we were right on top of a nest full of lovely speckled eggs.

Paddling on the lake we had found very tiring because of the wind and waves, and it had already taken us two days longer than anticipated to reach the river. It was therefore with great rejoicing that on the afternoon of the sixth day we finally reached the beginning of the Mackenzie, turned the canoe downstream and felt the current, small as it was, pick us up. Our paddling became effortless, compared to the work we had been doing on the lake, and we felt as though we were sailing. It was a great surprise to us to find from looking on the chart that the current was only about two miles per hour and that we were in a widening of the river called Beaver Lake; we still had easier work ahead of us as the stream became narrower and the current faster. With this added push we should be able to make Fort Providence in one and a half days, less than a third of the time required to go the same distance on the lake.

On the afternoon of the eighth day we were getting very anxious to reach Fort Providence. The weather was warm and sunny, the current fast, and we were happy. We had seen several interesting species of birds to add to our list and were just discussing them when suddenly, on rounding a small bend in the river, we looked up and were thrilled to see the white spire of a church with a tiny settlement clustered around it. As we came closer the Indians' sled dogs set up their inevitable howling at the approach of humans, and suddenly the whole town seemed to be a-hum. We stopped at the dock of the Royal Canadian Mounted Police detachment and were greeted by two open-armed policemen, one bounding German shepherd and about thirty Indians, members of a work crew, who stared at us as if we had dropped from Mars. The R.C.M.P. had been notified of our pending arrival and I think they were as anxious for a change in their daily routine as we were for one in ours. We stayed at the settlement for only a day and a half, as we still had a long way to go, but we left behind some wonderful friends.

Settlements such as this provided diversion from our paddling and days of seeing nobody. We always looked forward to our arrival at a post, too, because it meant mail, and perhaps some fresh vegetables. However, we were glad also to get away from them, since we always had to pitch our tent in someone's yard and "borrow" their conveniences. At Fort Providence our accommodations were the old R.C.M.P. cell block. It was a lot more difficult than camping along the river where we could just jump in for a bath. Every third day or so we would take half a day off for such bathing and washing clothes. Nothing will ever equal the clean refreshed feeling of having bathed in the cold lake and river. Our first hot showers, at one of these settlements, which we thought we had been looking forward to, proved to be a great disappointment.

Between Fort Providence and Fort Simpson, the next post, the river assumes many moods. There is another lake shortly after leaving Fort Providence, where the current is almost non-existent; later on, as the river narrows, the current again picks up speed. This is one of the longest stretches uninterrupted by settlements. We passed a few groups of empty Indian cabins, vacated by the Indians who congregate at the forts in the summer for trading. We encountered very few people along the river, save the occasional barge on its way north, the Indian hunter and his dogs, or the "channel boat" which spends the summers going back and forth checking on the buoys in the channel. We were usually overjoyed when we saw such signs of humanity and immediately trained our binoculars on the boat to see the people, only to find that they had beaten us to the draw and were looking at us with their binoculars.

We generally made camp around five o'clock, as that was the time when hunger began to make itself apparent. I cooked dinner while George cut wood and set up the tent. Occasionally we would be quietly observed by a loon who, with neck and head strained for keener observation, would let the current and wind drift him as close to us as he dared come, and then would dive or paddle out to a safe distance, laughing at his daring. Dinner was usually a fairly large meal. After all was cleaned up we would sit around the remains of our fire and have a cup of hot tea. We did not carry watches as it was so pleasant not to be bound by time, and as the sun never really set, we had no definite time for retiring. However, at about nine o'clock as nearly as we could guess, we would spray the inside of the tent to finish off any mosquitoes that might have sneaked in while it was being put up, and any that might sneak in with us, and were soon asleep. Despite the darkless nights we managed to sleep very well and usually did not wake up until about seven o'clock.

After a week of paddling from Fort Providence we reached Fort Simpson. It was here that there occurred our only accident involving the canoe. While a full-fledged wind and rain storm was in progress the wind picked the canoe up, deposited it in the river, swamped it, and beat it on the rocks for most of the day. When found that evening, only 500 yards from where it had started, it was in bad shape. Nine ribs had been knocked in and a great deal of the flooring smashed. An entire new canvas was needed. Two natives set about the repairs and in some three days had them completed. The new ribs were handhewn spruce, steamed and bent to fit, much of the planking was replaced and a new canvas stretched over the outside. Except for a small bulge the canoe was almost as good as new but not quite, as the lines of a new canoe are truly beautiful.

It was at this point in our trip that our plans changed, and with some regret we boarded a barge, canoe and all, and went back up river and across to the northern shore of Great Slave Lake. Our regret was due to the fact that we should not get to see the rest of the river which we had grown to know so well. We had paddled only about 300 miles of the expected 1000, but we were going to be able to do our survey of the Indians sooner than expected, which made up for any other disappointment.

Whatever the reason for getting there in the North, the canoe is the ideal mode of transportation, and if you are not in a hurry, a canoe without an outboard motor is the most enjoyable.

The Indians were amused at two white people paddling a canoe, but I might add that they also admired us for it; they were very nostalgic for their old way of life.

As our plane flew over the lakes and forests, bringing us back to civilization, we began planning a trip for another season. We thought of the places that we would visit, and of the changes we would make in our camping. We would plan to buy more of our food at the posts along the way, thus eliminating a large portion of the weight of our load; we would take gill nets and do our own fishing, since a freshly caught fish is one of the most delicious forms of food. And we would leave behind the heavy, hot, and generally uncomfortable boots of the white man and substitute for them the moccasins of the Indians, which are so delightfully light and comfortable. If the land is wet, there are special rubbers which can be purchased from the Hudson's Bay Company which make the moccasins waterproof. If, however, they do get wet, moccasins can be hung up to dry like any other clothes.

The North is still a frontier, though that aspect of it is rapidly vanishing. For those who love it, there is nothing better than a summer spent deep within it.

UP THE MAGALLOWAY RIVER IN 1861

by Marshall M. Tidd

Part II

For Part I of this article, with explanatory introduction, see Appalachia *for December, 1957, 457-71.*

Because of limitations of space, it has been necessary to omit a section of Tidd's journal in this concluding part of our presentation. The account of the return down the Magalloway, from Saturday, September 14, through most of Tuesday, September 17, has been chosen for omission, as being that part of the narrative least important from the point of view of description of the territory traversed.

As in the previous installment, some punctuation has been added, to facilitate reading, and capitalization has been made uniform throughout. Except for the correction of a very few obvious slips, spelling has been left as in the original, and without specific comment.[1]

Tuesday [Sept.] 10th. We were out early this morning and took our breakfast in good season. At nine o'clock we broke up camp, struck the tent and left it together with some of our heavy baggage at Mr. Whittemore's house, and packed the rest into an ox cart with William who is too lame to walk, and went up through the settlement, then turned off to the east through the pastures and entered a heavy forest mostly of Rock Maple, part of which has been cleared up for sugar purposes. The trees are very large and the sap troughs still remained under them. We arrived at the head of the carry at ten o'clock, three miles from the camp, and stopped at a little temporary shed put up for shelter for the boats, which we found safely stowed under it. We were obliged to stay here half an hour waiting for the team to come up. These boats are poor things; they are smaller than our others and are very narrow and unsteady. When loaded they are but six inches out of the water and consequently we are obliged to keep quiet in them. We got off about eleven o'clock and turned our backs upon Asiscohos mountain, having finally passed it; the falls of the same name which we have just passed running down over a spur of it.[2]

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[1] The editors (Benton L. Hatch and L. Felix Ranlett) acknowledge with thanks notice of Capt. F. C. Barker and J. S. Danforth's *Hunting and Trapping on the Upper Magalloway and Parmachenee Lake* (Boston, c.1882), to which their attention was called by Ralph S. Palmer, State Zoologist of the State of New York. This all-winter trip began at Errol, N. H., on October 10, 1876, somewhat over fifteen years later than that of our party. Unfortunately for comparisons, their account of the journey up the Magalloway, being only incidental to their purposes, is slight and lacks descriptive detail. Even so, it is valuable as one of the few published accounts of the river journey.

The river here is deep and still. It is from fifty to seventy five feet wide, and the trees, unlike those below, are almost entirely of Fir and Spruce. The banks are lined with alder bushes at the edge of the river, and the dark, ridged, pointed growth of the Fir gives the river, which is very crooked in its course, a singular effect. The water although clear and limpid looks black as midnight, and the trees are reflected from its unruffled surface as clearly as the originals. The general course of the river is through a long straight valley, or rather an intervale running north and south for several miles, and the valley is one and one half miles wide. The river is continually crossing it and sometimes bringing us up to the base of the mountains on either side; so crooked is the river that "Escohos" mountain appears to us on all sides like a Will o' the Wisp. Sometimes it is directly ahead and then directly behind; sometimes on the right and then upon the left, but each time it came ahead we were a little farther away from it, and this was the only encouragement that we had to row. A short distance up river the other boat, which was ahead, turned in to the east shore and pulled in their oars, we followed suite and in a moment glided silently into Beaver Brook, which enters the river from the east and is fifteen or twenty feet wide; here in a few moments we caught fifty of the finest trout that we have yet seen; one of the boats went up the stream a short distance but could get no fish and soon returned, when we pulled along up river again. About four o'clock we came to a place where the banks are rocky and the river is narrowed down by slate ledges to about twenty feet in width. The sight of these rocks was an agreeable change in the scene, as we have seen nothing but clay banks since leaving the falls. This place is called the Narrows and is said to be a good place for fish, so we stopped and "tried 'um" but could get none, and after remaining here a few moments we pulled on again until we arrived at a log landing up on a high bank on the east side of the river, eleven miles and a half from the falls. Here we landed and lugged our baggage nearly [a] quarter of a mile into the woods by an old logging road to a lumbermans camp, where we took up our quarters for the night.

This is called Hammonds Camp, and is twenty feet long by sixteen feet wide. It is built of logs, roof being covered with strips of split from Pine or Spruce logs, it has but one window and that is ten inches high and three feet long in the rear end, the low wooden door opening in the other. This one has no chimney. There are two stoves in it with their funnels running out through the roof. (This is a very unusual thing as they generally have a fire place on the ground in the centre and a large wooden chimney over it with an opening from four to six feet square for smoke.) There is a long plank seat on either side of the fire always known as the "Deacon's Seat" (I do not know why unless it is on account of their proximity to the fire); back of these and the fire are the bunks, about six and a half feet wide and extending the whole length of the camp. They are made by thatching the ground (which is first covered with poles) with the tip boughs of the Fir trees or Hemlock for beds. Across the end of the camp opposite the door is a rude table built of splits driven into the ground with a top of the same material. The roof comes down to within two or three feet of the ground. We sleep at night in a row in the bunks with our heads to the side of the camp and our feet to the fire. After a hard day's journey we find it by no means an uncomfortable bed, and we sleep as soundly as we could at home on feathers. This camp is located in township five Range third, and is known as Parker town; but there are no inhabitants nearer than Wilson's Mills, with the exception of our party.

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[2] From approximately this point to above the "Big Eddy", just beyond its original junction with the Little Magalloway, the river is now flooded into Aziscoos Lake.

The timber about this camp is the tallest I have yet seen. The Fir trees average about one hundred feet high, and there are some White Pines here that are full two hundred feet in heigth, and are the noblest specimens of their kind that I ever met with. There is no underbrush and the round, straight trunks rise tall and graceful without branches for sixty feet or more like columns supporting the ceiling of foliage above. There are many huge trees lying prostrate upon the ground, having been broken off or uprooted by the storms, carrying down with them many smaller ones which happened to stand in their way, thus rendering travelling through them very difficult and tiresome. The whole ground, rocks, stumps and every thing is covered with a dense growth of moss and is reeking with water. The discharge of our fowling-pieces awoke splendid echos through the forest. There was a peculiar ring about the reports that I like very much and I fired several times to hear the report go reverberating and bounding through the recesses of the dark and silent forest. Within three or four rods of the camp is the barn which, like the camp, is built of logs and is called the "hovel". The cattle which are used here in the winter, drawing out logs, are kept in this part of the establishment. Opposite the door of the camp and about six rods from it is a dug out trough supplied with delicious water by a log pipe leading from a spring on the hill side just beyond.

We arrived at the camp just at sunset and from that time until dark we were beset by swarms of overgrown Mosquitoes, who fairly drove us into the camp, but they did not trouble us after dark. We cooked our supper (a chowder of trout) on one of the stoves and soon after turned in, rolled up in our blankets. We had not been asleep long when we were startled by a loud crash which brought us all to our feet in an instant with an eye to our guns, but we soon discovered the disturbance to have been caused by the falling of the stove pipe, one section of which fell across my knees, giving me something of a start. After clearing away the rubbish and putting out the fire in the stove, we turned in again and had just got well asleep when I was awakened by the snarling of some kind of animals outside close by my head and could occasionally hear the snapping of the brush. Mr. Whittemore could not satisfy himself whether they were Minks or Lucivee (a kind of Wild Cat). He and I took our guns and went out and groped about through the intense darkness in expectation of meeting a pair of green eyes but could see nothing, and after stumbling over several logs, we turned in again and we were serenaded by the hoarse hooting of an Owl directly over our heads which occasioned much amusement. The remainder of the night we managed to sleep and knew nothing more until morning.

Wednesday [Sept.] 11th. The morning was cloudy with every appearance of rain. Joe killed some Partridges this morning before breakfast. After breakfast some of the party were busy in washing dishes while others were engaged upon a job which we are obliged to do every morning, viz., stopping leaks in the boats. They are not caulked at all but are smeared over with pitch and spruce gum. The bumping and dragging that they get over the rocks is bad for their seams, and we pull them out every night and turn them over in order that they may be dry in the morning, when Jack draws a hot soldering iron over the seams and all is tight again, in which condition they sometimes remain nearly an hour. Early this morning John went down to the river and while there a blue boat went up containing three men, who in answer to a question from John said that they were going up river to mark logs, but John was not verdant enough to mistake two Boston fellows who are up here on a fishing excursion for lumbermen. One of the three is a guide who resides at Durkee's Landing and rejoices in the name of Ellenwood.

We got off about half past eight this morning and were obliged to pole the boats up over a short piece of rapids just opposite the landing. Soon after passing them we discovered fresh tracks of a Moose in the sand at the edge of the water and in a bend in the river close by we saw his wake in the river showing where he had crossed but a moment before, but Whittemore thought from the distance between his tracks that it would be of but little use to pursue him, so we pulled on. We have now left the granite region and what few rocks we see are slate, and occasionally a ledge of it crops out by the side of the river. One mile from the camp we came to Metalic's Pond on the left side of the river. It is nearly circular and is about one fourth of a mile across, with a small outlet into the river. The other boat went through into the pond but ours grounded in the attempt and would not go, so I amused myself in making a sketch[3] while Chapin fired at some Loons in the pond with his rifle, but he might as well have fired at the wind, for although he made good shots they were apt at dodging them.

As we could get no fish in the pond we pulled on again and soon entered the "meadows", a low swamp through which the river winds its doubled and twisted course. The banks are lined with low dense growth of Alder bushes behind which are Maple trees and tall coarse grass. The river is full of sunken logs and snags, while water is swift most of the way, and rapids are constantly obstructing our passage. Some conception of the crooks and turns of this river may be had from the fact that we rowed ten miles by the river, which is fifty feet wide, and got ahead in a direct line three miles. About an hour out it commenced to rain and rained hard all day. We pulled up to the shore and the party drew the cases on to the guns and donned their rubber coats. We were constantly meeting with rapids where we were obliged to get out into the river and drag the boats over; the water in some places being from four to six inches deep and the boats drawing twelve.[4] We did not stop to take any dinner today but pushed on our way for the Little Magalloway.

About two o'clock P. M. we came to some rocky rapids where all were obliged to get out of our boat except Joe and myself, who were the lightest of the party, so we poled the boat up while the rest walked up on shore. Just as we got up into dead water some Pigeons flew over and alighted in some tall pines on the east bank, where we could hear them prating. After looking closely we saw them, as we supposed, in a tall tree. Joe pulled the case off from a gun and I paddled him across, when he fired, and the shot went rattling up among them, knocking off the bark from the branches, but the Pidgeons refused to come down. A close inspection showed the Pidgeons to be bunches of Lichens on the branches. Joe cursed the moss and we paddled back and picked up our companions who were enjoying a hearty laugh at our expense from the shore. We now pulled along up river after the other boat, which had gone along. We pulled along all the afternoon over snags and rocks until about four o'clock, when we met with the worst rapids that we had yet seen.

The water ran down hill over small stones and gravel for nearly sixty rods, and was hardly deep enough to bubble over the stones. We were all obliged to get out into the river and drag the boats up the hill, which was no very light drag, as the boat (heavy enough in itself) was loaded with baggage and stores; all hands by this time being tired and hungry, having eaten nothing since morning. We thought this was "rather rough". Joe said it was almost as bad as Bull Run, and Jack, standing in the icy cold water up to his knees, said "it makes it pleasant for us" while Sam, who always takes everything easy, enjoyed a hearty laugh at the scene. How the fellows in the other boat made it we could not tell as they had gone by before we came in sight. Arriving at the top of the rapids we smelt smoke and turning a bend to the left we saw the junction of the Little Magalloway and on the left a high steep bank with a log landing, at the foot of which lay the blue boat that passed us this morning. We pulled a few rods farther into the Little Magalloway, where we discovered our other boat pulled up on the shore among the bushes.

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[3] Page 44 of the manuscript.

[4] See the sketch, "Our Magalloway Boats in the Rips", used as tailpiece for this article. This sketch appears (in reverse) as the tailpiece on p. 80 of Farrar, edition of 1877, and in subsequent editions (e.g., on p. 194, edition of 1881).

We landed here and unloaded our baggage and stores, with which we scrambled up the steep bank and found ourselves at Wheelers Camp,[5] from the huge wooden chimney of which the blue smoke was curling gracefully up among the trees. Entering at the rude door we found the other boat's crew (with the exception of Leonard and the quartermaster, who met us at the landing) and the three men of the blue boat, Messrs. Joseph Bassett and Thos. D. Harlow of Boston, with a guide who, when we entered, was cooking a dish of tea in a tin pail, holding it over the log fire on the end of a stick. They welcomed us to the camp where we pulled off our wet clothes and wrung them out and poured the water out of our boots. The interior of the camp in a short time presented very much the appearance of a second hand clothing store. John, Sam and Joe went down to the river to fish and returned in a short time with fifteen splendid trout, one of which weighed two pounds and a quarter. For our supper we devoured a large pile of fried trout, as our appetites were in excellent order.

This camp has the fire on the ground in the centre, which makes the camp much pleasanter than the one we occupied last night, as it lights up the place better. The quartermaster has a mania for large fires and after supper he and Chapin piled logs on the fire until they could make no more stay on, and in order to escape the heat the rest of us retreated to the bunks and laid down. We had been there but a short time when the chimney took fire and we were obliged to throw water up to put it out. The weather has been stormy all day and the rain continues to fall tonight; but the camp is tight and we keep dry and comfortable, although it is rather smokey. We are obliged to pack close tonight, twelve of us sleeping in a berth eighteen feet long. We find that our Boston friends are better supplied with apparatus for catching trout than for marking logs, but we shall probably get what trout we want to eat unless they display more knowledge of fishing than they have exhibited thus far.

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[5] The tailpiece on p. 74 of the manuscript is a sketch in ink of a camp with "a huge wooden chimney", which may be a drawing of the Wheeler camp.

Thursday [Sept.] 12th. The morning was cloudy but there were appearances of fair weather. Our neighbours, Bassett, Harlow and Ellenwood, took their breakfast early this morning and went up river fishing, probably to the dam, four miles above. From the junction of the Little Magalloway up to the dam is one continued series of rapids and falls, where the water tumbles over rough rocks all the distance (four miles) and making a total fall of about five hundred feet. At the head of the falls is built a log dam with a sluice way to let off the water and run out logs that are cut by the lumbermen in the winter. One mile above our camp is a large basin in the river, known to the hunters as the "Big Eddy", where our fishermen expected great success in fishing, and early this morning some of them dragged one of our boats up into it, but did not get fish enough to pay them for their labour, as they caught but twenty five.

We make no account of any fish that we catch except Trout. There are many Chubs all around where we have fished and they annoy us exceedingly. We caught some that weighed from two to three pounds and occasionally we catch a sucker; these three kinds of fish are the only ones inhabiting these northern lakes, the water being too cold for any others. We were intending to visit Parmachene Lake today but our neighbours appeared to be very anxious to fish ahead of us and as we do not think they will get all the fish, we concluded to remain here and let them have a clear field. I tried hunting, but the party is too large and are so fond of having a good time that they make too much noise for success in that line. I could find nothing but Red Squirrels, which are very plenty here, but there are no grey ones. I shot a mocking bird from a flock of them this morning near the camp; my attention was first attracted to them by their singular notes, sometimes whistling as if to call a dog. After shooting one to ascertain what they were, I was followed a long distance by a number of his companions, who screetched most unearthly sounds in my ears. There are great numbers of little brown wrens about here.

The black flies are somewhat troublesome here, if we stand still a moment, but they do not trouble us if we keep moveing. We have seen no Minge thus far and consider ourselves fortunate in escapeing them. Harlow, Bassett and Ellenwood returned from the dam about one o'clock with about a hundred small trout, the result of their day's fishing. They took dinner and went down river on their way home shortly after. We had a target shoot in the afternoon with Chapin's rifle, the only one in the party, the rest using double barrel shot guns. Some of the bullets were shot completely through the trunk of a Fir tree ten inches in diameter at a distance of one hundred and seventy five feet.

There are plenty of Sable and Mink about here, but they are very shy and it is seldom that we see them, although we see traces of them constantly and we hear them about the camp every night. We are obliged to cover up the fish and every such thing that we leave out at night, or they will steal them. At every little stream that comes into the river may be seen remains of the traps of the fur hunters of last year. The season is not late enough yet to have good fur, but in about a month from this time the hunters will commence hunting them. The day has been very pleasant and there is a fair prospect of a pleasant day tomorrow for us to go to Parmachene Lake.

Friday [Sept.] 13th. The morning was fair and we took our breakfast at half past five o'clock, and at six, Chapin, Thompson, Dolliver, three Parkers, Whittemore and myself set out on foot for the lake and Little Boy's Falls, the final and most northerly point laid down in the programme of our expedition. Leaving Wyman and Kimball (the latter being still sick from the cold he took on Escohos Mountain) in charge of the camp, we forded the Little Magalloway a short distance from the camp where the water was about ten inches deep and about thirty feet wide, with a sand and gravel bottom. Both sides of the [river] are lined with a dense growth of Alder bushes through which we were obliged to break our way, after which we came out into the timber and walked up a shocking bad logging path due north two miles, when we came to what had once been a clearing, but the bushes had grown up in many places higher than our heads. On this clearing was an old deserted camp. Continueing on one mile and three fourths farther we reached the heigth of land between the junction of the two rivers and the dam. Since leaving the camp we have come up a gradual rise all the way except the last half mile, which has been very steep up over broken granite rocks partially covered with moss and roots of trees.

Half a mile down a steep de[s]cent brought us to the dam on our right, having left the Little Magalloway far away on our left. There was a considerable number of logs lying in the river at the upper side of the dam. We remained here fishing with good success until nine o'clock, catching some very fine trout. On the bank of a little creek a few rods above the dam we found the boat that had been sent up the carry for us. It is the same kind of a boat as the ones that we left at the junction of the

JUNCTION OF THE LITTLE MAGALLOWAY

(From the Tidd MS., page 47)

LITTLE BOY'S FALLS

(From the Tidd MS., page 58)

THE FLUME AT DIXVILLE NOTCH

(From the Tidd MS., page 85)

rivers, and is equally unsteady. We launched it into the creek and all got in except Sam and Jack, who concluded to remain at the dam and wait for us to return at three o'clock. After pulling a short distance up river we smelt smoke, and in a few moments passed a place on the right bank where a fire was burning in the ground, which was a vegetable mould on a ledge and was dry; it had probably caught from some camp fire and had burnt off the roots of many trees, which had fallen and lay strewn in every direction, some of them being nearly down into the river. There are many Arborvitae trees along the river here, of which there are few below. Half a mile from the dam brought us to some rapids where some were obliged to get out and pull the boat over. After this two or three walked up the shore, while the rest poled the boat up another set of rapids when we took them in.

Turning a sharp curve to the right we passed through a wide place in the river and entered the most charming little lake that I ever saw. It is three miles long by one and one half miles wide, and lies completely imbedded in hills and beautiful mountains covered with dense heavy forest rising from the edge of a clean pebbly beach with which the lake is skirted. The water is as clear as the purest spring. The sun was shining brightly and the forest is just beginning to show the brilliant colors of autumn. To us who have been for several days shut up in a thick forest, only able to see but few rods in any direction, it seemed like the breaking of a beautiful day after a stormy night. Just after entering the lake I landed with Chapin on the south shore among some arborvitae trees to make some sketches[6] of the lake. I measured one of the trees four feet above the ground and found it five feet three inches in circumference. While Chapin and I remained here the rest dropped back to the outlet to fish, where Joe caught a trout weighing four pounds and measuring twenty one and a half inches long by five and three fourths broad, which will probably be the largest fish the party will get. He must have been a voracious fellow, for his stomach contained two full grown mice when he tried Joe's hook.

After remaining on shore about half an hour the boat came back and took us off; we then pulled off up the lake, our course being nearly due north. About a mile from the outlet we passed a little island nearly in the centre of the lake, it is about fifteen or twenty feet long and not more than twelve inches out of water. It is covered with coarse grass and is very appropriately called "Little grass Island". It lies off the mouth of Moose Stream, which comes into the lake from the east and is something of a stream, being twelve or fifteen feet wide. The lake appears to be very deep in some places, and suddenly becomes very shoal in others. There are long ridges running lengthwise of the lake, rising abruptly from the bottom until they come within a few inches of the surface; one of these we got aground upon far away from the land. It was composed of hard gravel and small stones. We backed off and afterwards crossed it near a beautiful island which was covered with a heavy growth of trees, and which is a continuation of the same ridge. Passing to the westward of this island, a beautiful cove opened into the land on the west side with a narrow entrance from the lake. We were somewhat puzzled to know where the river entered, but seeing a valley coming down to the back side of this cove we thought the river might enter there, and we rowed in a short distance, when we found ourselves mistaken, upon which we came out again and discovered farther up the shore a mass of coarse grass and rushes which usually grows about the inlets of the rivers.

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[6] No versions of these appear in the manuscript, but there is one on p. 192, Farrar, edition of 1881.

We pulled for this and entered the river and frightened out a flock of ducks who were sitting just within the mouth of the river, but we could not get near enough for a shot. A short distance up we discovered fresh Moose tracks on the shore and just beyond could see the bushes moveing; we stopped rowing and brought some guns to bear upon the spot and waited for further developments, but could see nothing, and after waiting a few moments, we pulled on again and had gone but a short distance farther before the passage was obstructed by an enormous pine log lying across the river with the ends extending ten feet on to the banks on either side; on its upper side was a jam of logs floating in the water. This was certainly a serious obstacle in the way of our farther progress, but having arrived within two miles of the proposed end of our pilgrimage we were not disposed to be stopped thus, so getting out on the log we succeeded in opening a path through the logs, then pulling the boat over we were once more afloat. After pulling two miles farther and poleing up two sets of rapids our ears were greeted with the sound of waterfalls and turning a bend to the left we entered a large basin or eddy, perhaps one hundred and fifty feet across, at the foot of the rapids of Little Boy's Falls.

We landed on the west bank at a little hunters camp, made of Birch Bark, thirty or forty rods below the falls. The fishermen struck out for the falls at once, where they have anticipated great luck in fishing. I took my gun and sketch book and strolled into the woods. A short distance west of the river I came upon a beautiful pond about a half a mile wide and quarter of a mile long, with water clear as chrystal. I thought there might be ducks in it, but in this I was mistaken. I then went up to the falls, climbing up a steep ridge and then letting myself down its almost perpendicular side nearly two hundred feet to the river at the foot of the falls, where I made a sketch, and while making it I saw Chapin creeping across the river above the falls on the trunk of an old tree which had falled across the river some six or eight feet above the water; he had his fishing rod in one hand and creeped on his knees and the other hand, stopping at every step to brush away the Black Flies that attack him in swarms. He did not see me and I should have enjoyed the scene hugely had I not had as much as I could do to defend myself from their merciless attack. I was finally obliged to secumb and beat an inglorious retreat to the landing, where I found two of the party had taken refuge in the boat and put off into the river. I could not pursuad them to come ashore for me so I built a fire in a large hollow stump, which created a thick smoke, and by standing in it I succeeded in escaping from the bloodthirsty little scoundrels. This is a method much used by the hunters and is called a "smudge". It is built of rotten wood, the smoke of which has a very pungent odor and is an excellent remedy for the Black Fly and also for the Minge.

Little Boy's Falls are situated in township five Range five and are seven miles from the Canada line. The principal fall is over a few slate rocks in the river about six feet high. It is not a perpendicular fall, but the water rushes down over the broken rocks in several places as shown in the sketch. Below the fall the rapids extend about forty rods, making a total descent of fifteen or twenty feet. We remained here an hour but could get no fish, as it was rather late in the season for them to be in the quick water. This being the most northerly point that we intended to visit, and having seen all that we wish to of this place, we now turned our boat down stream and commenced our return trip, gliding swiftly and silently around the intricate windings of the river. Until now all our rowing has been up stream against a swift current, which we find essentially up hill work; but now going with the stream in our favor we find it vastly more pleasant and easy. A short pull brought us to the jam of logs, which we got through after considerable pushing and pulling the boat over the logs. We were soon on our way to the lake again. Entering the lake we pulled a short distance off the mouth of the river to some lilly pads, where we discovered large schools of trout in about eight feet of water.

Of course our fishermen could not be expected to pass them without stopping to "try 'um". We fished about fifteen or twenty minuets and caught so many that the bottom of the boat was filled with them, so that there was scarcely room to put our feet down; in fact, we caught them as fast as we usually catch Mackereel in Massachusetts Bay when they are plenty. They varied in weight from half a pound to one pound and a half. John would have remained here until we had filled the boat and sunk it, had not the rest of us reminded him of our promise to meet Jack and Sam at the dam at three o'clock, and it was then past four and they had been seven hours waiting for us. It would have been folly for us to have caught more, as we are obliged to carry them down four miles to the camp at Little Magalloway, so we pulled along; when nearly abreast the island we ran aground on a shoal which makes off from the west shore. We saw it some time before we got on it, but it is very difficult to estimate the depth of the water here, it is so clear. We were obliged to go some distance out of our course to get around the bar, after which we pulled off to the eastward and passed between the island and a long point of land on the north end of the lake.

We stopped a few moments at the mouth of Moose stream, to "try 'um" as John says, but could get none. We then pulled on to the outlet. We could not get John by the place where Joe caught the four pound trout this morning, so we stopped a few moments and caught some fine ones. It was now past five o'clock and thinking of our companions at the dam we pulled down with John protesting all the way. He reached back as far as he could with his fishing pole in order to keep his hook in the lake as long as possible, hoping to catch another four pounder. The water was shallow and swift as we came out of the lake and occasionally his hook caught on the bottom, when he would exclaim, "hold on, hold on, vow that's a bite". This created much sport for the rest of us, and probably would for John had he not seen his paradise fast receding from his longing gaze. We came in sight of the dam at half past five but could see nothing of our companions. We shouted but could get no reply. They had probably got out of patience and left for the camp. We pulled up the little creek above the dam and drew our boat up among the trees. We were detained some time in stringing up our fish and in getting ready to start and it was sunset when we got off.

At the dam we found some fish left for us by Sam and Jack, together with a note written on a piece of Birch Bark saying that they had waited for us until out of patience and had gone down the carry trusting to luck to find their way. We were somewhat fearful that they might loose their way as it was nearly dark in the woods. We were now somewhat tired and hungry, having eaten nothing since morning. We trudged quietly along down the four mile carry, shouting occasionally to see if we would get any reply from our companions, who had gone ahead. When we arrived at the junction of the two rivers it was quite dark and we stumbled over stumps and logs as best we could. We forded the river and forced our way through a dense thicket of Alder bushes for some distance, when we came to the foot of a steep bank at a loglanding. After scrambling up the bank, a few steps brought us in sight of the camp with its blue smoke curling up among the trees. A shout from us brought a welcome reply in the shrill notes of Sam's Caliope, ringing through the silent recesses of the forest and dispelling at once all our fears for his safty. It appeared that they had supposed from our long absence that some accident had happened to us and had remained at the dam as long as they could and get back to camp before dark, and it was with feelings anything but pleasant that they left us in the forest and pursued their lonely way down the carry. Their joy can be better immagined than described as we threw down our packs at the door and entered the rude cabin. It was now thirteen hours since we had eaten and, with eighteen miles travel, we were in good condition for supper, which William with his accustomed foresight had anticipated and had ready for us a splendid supper smoking hot, to which we did justice.

We found on our return to the camp an addition of three to our family—two gentlemen from Boston (Messrs. Charles M. T. Norton and George R. Dexter) and a guide, Mr. Nahum Bennett, who are up here fishing and shooting on their way to Parmachene Lake. We were very glad to meet them, having been so long in the woods that to meet people from Boston was like meeting old acquaintances. They had not caught fish enough to eat, and I very much doubt if any one has that fished in the river after us. We supplied them with trout for their supper and breakfast. Web shot a Sable today. He was running over a pile of brush close by the camp. After supper was over, we replenished the fire with logs until the cabin was light enough to read in any part of it. Some threw themselves into the bunks and others seated themselves on the deacon's seats, and related incidents of the day with descriptions of the beautiful Parmachene, until those of the party who did not go up the lake with us concluded to try it tomorrow. Our friends, Norton and Dexter, also entertained us with news from home and of the war, from which we have heard nothing since leaving home, having escaped the infliction of the daily newspapers. This I think is about the first time the war has been alluded to since we have been out, so intent have we been upon enjoying the expedition, and in that respect we have succeeded admirably. For one, I think I have enjoyed this expedition, so far, better than any that I was ever connected with.

[From Saturday, September 14, through Tuesday, September 17, mid-afternoon, the party returned down the Magalloway River.]

Tuesday [Sept.] 17th . . . we turned the boats down the Androscoggin, which at this place is about two hundred feet wide and has but little current. The banks are low and covered with a thick growth of Fir and Spruce, with some trees of Yellow Birch, many of which were covered with long grey Lichins waving in masses like hair from its branches. A pull of four miles brought us in sight of two huge piers in the river, built of logs and filled with stones. A long boom of logs lay diagonally across the river, supported by the piers and covering the front of the dam. We landed at [the] upper end of the boom on the north shore (the course of the river being east and west) and explored the place. The dam is built of logs, and is a series of sluices with hoisting gates, covering all but thirty or forty ft. of the width of the river, in which is an apron also of logs, with piers on either side of the same material; over this apron the lumber which comes down from the lakes is run on its way to the seaboard. This dam is capable of flowing Umbagog Lake eleven feet, and its consequences may be seen in belts of dead trees which surround this otherwise beautiful lake. The water is held up by the dam until the river is too low for the logs to run over the falls, when the gates are raised, thereby creating an artificial freshet carrying the lumber down with it. The grist mill, with a very pretty dwelling house, stable and workshop, the only buildings at this place, are the property of a company, one of the principal owners of which is Mr. David Pingaree,[7] of Salem, Mass.

The village of Errol lies about a mile west of the dam, on one road running through a beautiful valley. Its population is one hundred and fifty, and its valuation is sixty thousand dollars. It has three school houses but no church. We engaged Mr. David Harper to take us to Dixville Notch tomorrow and return. The Notch is nine miles from this place and he takes nine of us, which requires three horses and two wagons, for which he charges us the whole sum of three dollars and a half. We pitched the tent on the north bank of the river at the landing, by the side of a road, and encamped for the night. The weather looks dubious tonight and I am doubtful about the trip to the Notch tomorrow.

Wednesday [Sept.] 18th. The clouds blew off in the night and the morning was clear and pleasant. I went up river this morning after Partridges about a mile but could not find any, and after hunting around until I was tired I returned to camp, where I found the rest of the party eating breakfast of fried eggs, pork and potatoes. At eight we started off for the Notch, nine miles distant. The whole party with the driver started off in one rickety old two horse wagon and had got about a mile out when we met two boats being drawn by the falls on wheels by oxen, with a party going up to the Richardson Lakes. They camped about a mile below us last night. Our party taken collectively are somewhat heavy. Our aggregate weight is over fifteen hundred pounds and, the wagon being rickety withall, we had not gone two miles when the body broke in two with a loud crack, the after part settling down much to the dismay of the passengers therein. Three carriage builders of the party repaired the damage by running two rails (stolen from a fence) under the wagon, which served to hold us up, although they did not improve the springs (thorough braces) much. Soon after, the driver procured a Concord wagon, which relieved us of three of our load; after this we got along very well except that once one of the wheels dropped into a rut so deep that the axle struck on the ground, by which two or three of the company slid off into the bushes.

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[7] David Pingree (spelled above as commonly mispronounced) had extensive timberland holdings in Maine. There are interesting references to him in Richard G. Wood's *A History of Lumbering in Maine, 1820-1861* (Orono, 1935).

These little incidents made considerable sport and were rather pleasant than otherwise, particularly when we came upon (which we often did) a piece of "corduroy road", as it is called here. It is usually in low swampy places and it is made by placing logs crossways of the road close together to prevent teams from sinking into the mud. The sensation of driving rapidly over these can perhaps be imagined but it certainly cannot be described. The exercise is said to be good for dyspeptic people. We passed a number of log houses and a number of new clearings, one in particular that attracted my attention. None of this man's land yet had the stumps removed from it, and some of it he was yet burning, but the grain now about ripe was the best I have seen today. The house was small and rough but was surrounded by flowers and well trained vines that gave evidence of taste in the occupants superior to any that I have seen in this region. Passing through a long wood over a shocking bad road we came out at a clearing on which was a barn, the house having been burned some time ago; near it was a small enclosure, perhaps fifteen or twenty feet square, containing two or three graves. From this point we had a view of the Notch together with the whole range of mountains through which it is cut. The sun was shining brightly and the forest on the sides of the mountains, which at this point is mostly Rock Maple, was colored by the frosts with all the magnificent colors of a New England autum. The color season being now in the higth of its glory gave to the landscape a gorgeous appearance seldom equaled. Passing down through a valley and crossing a small stream, we commenced the ascent of the hill into the Notch.

A short distance up we stopped and entered a little foot path leading to the Flume, a huge fessure in the rock ten or fifteen feet wide and varying from ten to thirty feet in depth, the sides being perpendicular walls of granite, and extending nearly four hundred feet in length. Commencing at the top, it falls off in steps of from five to fifteen feet in higth, down which runs tumbling and boiling a stream of water clear as chrystal over the moss covered rocks, settling into the deep places in basins so clear that the water was hardly perceptible. In one of the steps over which the water runs there is a round hole known as the Auger Hole, made I presume by a stone having been revolved in it by the action of the water. It is sixteen inches deep by five inches in diameter and as round as though drilled by hand. I scrambled down to the bottom at the lower end and made a sketch.

When I had finished my sketch, I went out to the road, where I found the guide with the teams, the rest of the party having gone up the Notch on foot leaving the guide to come on with me, to which arrangement I did not object, particularly as Harper was well posted and was disposed to be sociable. I took the small wagon and Harper the other and drove slowly up the road, which is quite narrow and rises sometimes quite steep. A short distance above the Flume we stopped under a huge cliff nearly overhanging the road and known as the "Devils Pulpit"; whether his Satanic Majesty ever preached from it or not I was unable to learn, but certainly the place is wild enough to answer his purpose. This Cliff is on the north side of the narrow road, which lies almost immediately under its face, the south side of the road being walled up from a deep ravine below it, while on the opposite side of the ravine rises a perpendicular precipice high above the pulpit. In the bottom of the ravine runs a clear cold stream (one of the tributaries of the Androscoggin) which is overhung with trees whose roots had by some misterious process obtained a hold in the fissures of the rocks in defiance of the avalanches of ice and snow which come thundering down here in the winter season with tremendous power. This is certainly one of the wildest spots I ever saw.

A short distance above this place, Harper pointed out a spot high up the precipice where the lightning struck a few years since and tumbled an immense mass of stone down into the ravine below. Just beyond this we left our teams by the road side and went down into the ravine where, seated around a spring, we found our companions drinking of the sparkling water to the memory of Dixville Notch. The road at this point is very steep and we went up on foot. Arrived at the top of this pitch we came in full view of the pinacles which give such a peculiar character to this celebrated pass. The Notch is cut through the mountains in zig zag course from east to west, and the stone is Mica Slate standing in perpendicular colums;—solid walls being formed of them on either side, rising from five hundred to eight hundred and fifty feet high, sometimes shooting up in pinacles like gothic

VIEW OF DIXVILLE NOTCH

(From the Tidd MS., opposite page 82)

PEAKS AT DIXVILLE NOTCH

(From the Tidd MS., page 99)

towers, and reminding one of the Basaltic Colums of the Isle of Staffa or of the Giant's causway, Ireland. Sometimes walls start from the sides of the Notch, perhaps twenty feet wide, and run out like wings into the Notch fifty or sixty feet, growing less in thickness as they project, until at the point they are not more than two feet thick, and from two hundred and fifty to three hundred feet perpendicular higth from the mass of debris, which falls off five hundred feet more at an angle of thirty or thirty five degrees from perpendicular.

All but three of us climbed to the summit of the highest of these, over a mass of debris that looked almost like pieces of logs broken off in even lengths. It was rather a hard scramble but the view from the top amply repaid us for the labor of the ascent and when I stood upon the point of the wall eighteen inches thick and eight hundred and fifty feet above a little beaver meadow just under it, where I could drop a stone from my hand two hundred and fifty feet on either side before it touched, I thought I never saw a scene so wild and grand before. That part of the road at my feet is the water shed or its highest point and here the waters of the Androscoggin are devided from those of the Conneticut, down whose beautiful valley the view extends for miles until shut out by the mountains far off in the hazey distance. On the extreme western horizon is seen the Green Mountains, partly hid from the view by Monadnock Mountain (not Grand Monadnock). Beneath which, on a gentle slope, lay the beautiful town of Colebrook, while northward lay the dark Canadian Mountains, some of them so near that the trees may be destinctly seen upon them;—more to the eastward, the eye can trace the line of mountains whose summits form the boundary between the United States and Canada.

Almost beneath our feet lay a beautiful little Beaver Meadow, with its winding streams looking from such a higth like a colored map. On the north west side of it, and opposite us, rose a large mountain, presenting a perpendicular face to us, against whose sides our guns awoke splendid echos which came reverbrating back among the craigs and gorges like long ratling peals of thunder. The view down into the Notch from this point is a singular one, and is the wildest one that I ever saw. The points of the turrets and columns seen below give it a singular aspect, unlike anything else in New England. It is far more wild and grand than the White Mountain Notch, in praise of whose rugged beauty so much has been written. The stone is very soft. I knocked off pieces with my boots and could cut them with my finger nails. After remaining on the peak half an hour, we descended to the road again, all feeling well paid for the labor of the ascent, I think, except the Quartermaster, who could find no upland Trout up there.

I believe that all mountains and passes have profiles of old men in them and Dixville Notch is not an exception, for on our return Harper called my attention to a remarkably well defined one on the south side of the pass, of which I made a sketch[8] and have not flattered it at all, but copied it as nearly as possible. The distance from the forehead to the chin is about fifty feet, and it is certainly the portrait of a hard faced old fellow. Arrived at the spring where we left our teams, we took a lunch from the rations that we had brought with us from Errol.

On our return to Errol we stopped at a farm house to get some Canada Plums or as they are called here Pomegranates. They are cultivated here to considerable extent. They are of the Plum species and about the size of an ordinary plum, and are scarlet, sometimes with one side yellow. They are not so juicy as a plum but are very good eating, however. They are the only kind of fruit that can be raised in this section of the country and make a very fine appearance on the trees which very much resemble the acid English Cooking Cherry and grow somewhat larger than the Quince. Some attempts have been made to cultivate Apples but without success. The trees do very well until they commence to fruit, when the top begins to die and they soon become scrubs. We purchased a bushel of Pomegranates for one dollar and a half, and drove on to Errol, where we arrived at four o'clock P.M., having broken down only four times on the return. Poor Kimball's Rheumatism has been growing worse all day and we have sent him to the house of a gentleman by the name of Bragg in the village to remain for the night.

In the evening we amused ourselves by burning Fir trees. In order to get them on fire we piled brush under them until it reached the branches, when we set fire to the whole; as most of the trees were covered with long lichins the fire took very quick and in an instant whole groups of trees were in a blaze from the ground to the tops, the flames reaching in some cases nearly a hundred feet high, producing some of the tallest specimins of illuminations usually seen in these parts. The effect of the light on the surrounding forest and the river was grand. Leonard has gone down to Mr. Bragg's to stay with Kimball tonight. As this is our last night in camp we are making much of it.

Thursday [Sept.] 19th. Morning was pleasant. Leonard returned to camp early this morning and reported Kimball too sick to go down the lake with us, so we procured a carriage to take him to Bethel today. The distance is forty miles and I fear he will have a hard ride as the roads are none of the best. We broke up camp this morning for the last time, and packed up our luggage for home. Some of the party who have used India Rubber boots threw them away in disgust, having become satisfied that they are more trouble than profit, as they break occasionally, and when the water gets into them through leaks or over the tops it is next to impossible to dry them and besides this they are very liable to slip where the ground or stones are wet. Every night could be seen around our camp fire a row of stakes driven in the ground with the top of each surmounted by an inverted Rubber Boot, placed there to dry.

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[8] Page 92 of the manuscript. An unsigned version of this appears on p. 112 of Farrar, edition of 1881.

I must not forget to mention one article of our equipment which we have found to be particularly useful and convenient, and that is a portable stove which we use for cooking. It is made of sheet iron and shuts up like the leaves of a book when not in use. It is twenty four inches long, by twelve inches wide and nine inches high, with two boiler holes on the top and a door in the end, when set up; and when packed to move it occupies a space twenty four inches long by twelve wide and two and one half inches thick. It weighs ten pounds, and is the handiwork of Thompson and Kimball. We have done about all of our cooking by it when camped in the tent, making a camp fire only for light in the night and to make the camp more pleasant. We bought three nice full grown chickens yesterday of a farmer at Errol and had them very nicely roasted for us by the good lady of the house, for which, with a can of milk, they charged us seventy five cents, which we voted to be cheap enough.

I presume that this part of the country has not been much visited by Boston people or the prices of every thing would have been much higher. Exorbitant prices I have always observed to be the inevitable result of Boston patronage, and this is the fault of the patrons themselves, who in most cases cannot understand that the products of a farm cost less back in the country than in the cities, and when the farmer charges them what is to him a fair paying price, they give him twice as much as he asks either to gain his good will or to give him the impresson that they have plenty of money and are very liberal, thereby giving him the idea that all Boston people are equally rich and green with themselves, and all that is necessary to get their money is to ask for it and they will pay it rather than to be considered mean.

We like Errol very much and leave it with many pleasant recollections. At nine o'clock we left Errol and rowed up the Androscoggin. The morning was warm and pleasant; there was not a ripple on the glassy surface of the river, and the forest seemed to have put on its best smile to induce us to remain longer. It was with feelings of regret that we turned away from its beautiful scenery and pulled towards home. Arrived at the mouth of the Magalloway and took a parting drink of its cool delicious water. A short distance above we were startled by the rough scream of a steam whistle, which came echoing along the forest and river, and in a moment the steam scow which we met two weeks ago came grinding and puffing down the river, frightening away all the game within five miles of its course. We arrived at the outlet and entered the lake at half past ten A.M. A light breeze now sprung up as usual ahead, but we pulled leisurely along and at noon we landed at the same place among the frogs where we did on our way up and took our last picnic dinner of cold roast chicken, etc. After remaining here half an hour we pulled along to the south west and arrived at the mouth of the Cambridge river at two P.M. Jack and I landed on the west shore of the lake. I made a sketch[9] of the lake from this point, while the boats entered the river and pulled up to Upton. Jack and I walked around over B. hill to the post office to get the mail. From the top of the hill I made a sketch of the lake and the country back of it.

On the road from the post office to Abbott's, I noticed a little red school house in the edge of a shady grove of Spruce trees. The fair teacher had very wisely adjourned her little charge from the school room to the grove, where she had benches placed and was in the act of hearing a recitation as we came along. It was a pleasant sight to see the shy sidelong glances thrown at us by the little schollars as we passed along the road within a few feet of them. Arrived once more at Abbott's we found the rest of the party, who had arrived before us. Some were shaving, washing and such like employment, while one had discovered a box of blacking and was making a desperate effort to raise a polish upon a pair of boots that after three weeks in the woods more resembled dry hide than anything else. After shaving, washing and changing my camp clothes for a more civilized rig, I looked in a mirror and hardly knew myself. Mr. Abbott furnished us with an excellent supper as he always does and we fully appreciated it. About eight o'clock in the evening Lovejoy's teams came rattling over the bridge as they came in from Bethel to carry us down tomorrow. We have beds to sleep in tonight and splendid they are. This is the first time for sixteen days that I have had a bed to sleep in and I expect to sleep some tonight.

Friday [Sept.] 20th. Slept in beds last night of the best description but although very tired I had become so accustomed to camp that the house seemed close and I did not sleep much. We turned out at three o'clock A.M. and took breakfast at four, when our teams were ready and we started off. The morning was clear and promised a pleasant day, but it was not yet daylight. The mile and a half tug up B. hill was rather tiresome, but the light soon came and with it warmth, and soon the sun came

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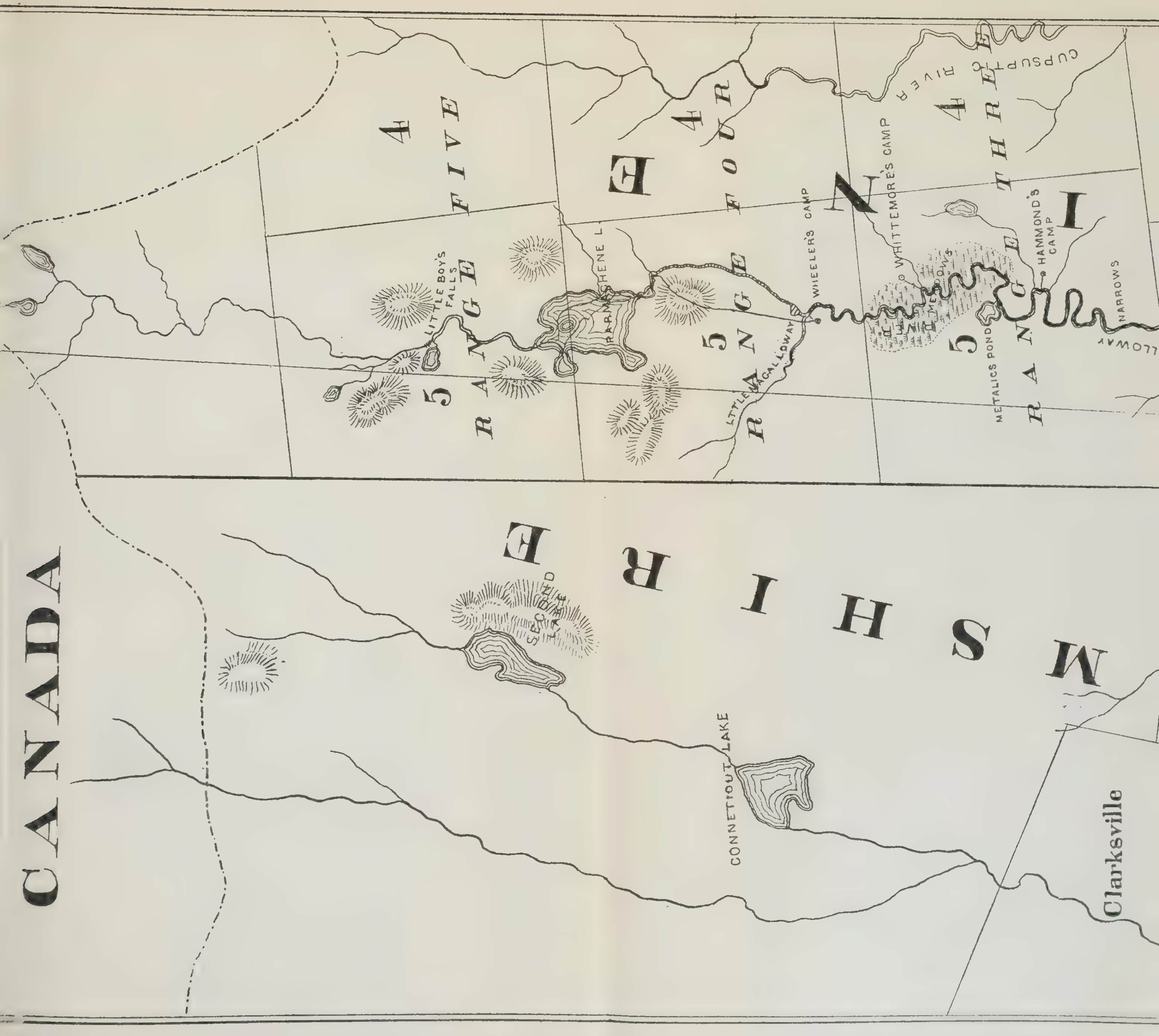
[9] No copy of this appears in the manuscript.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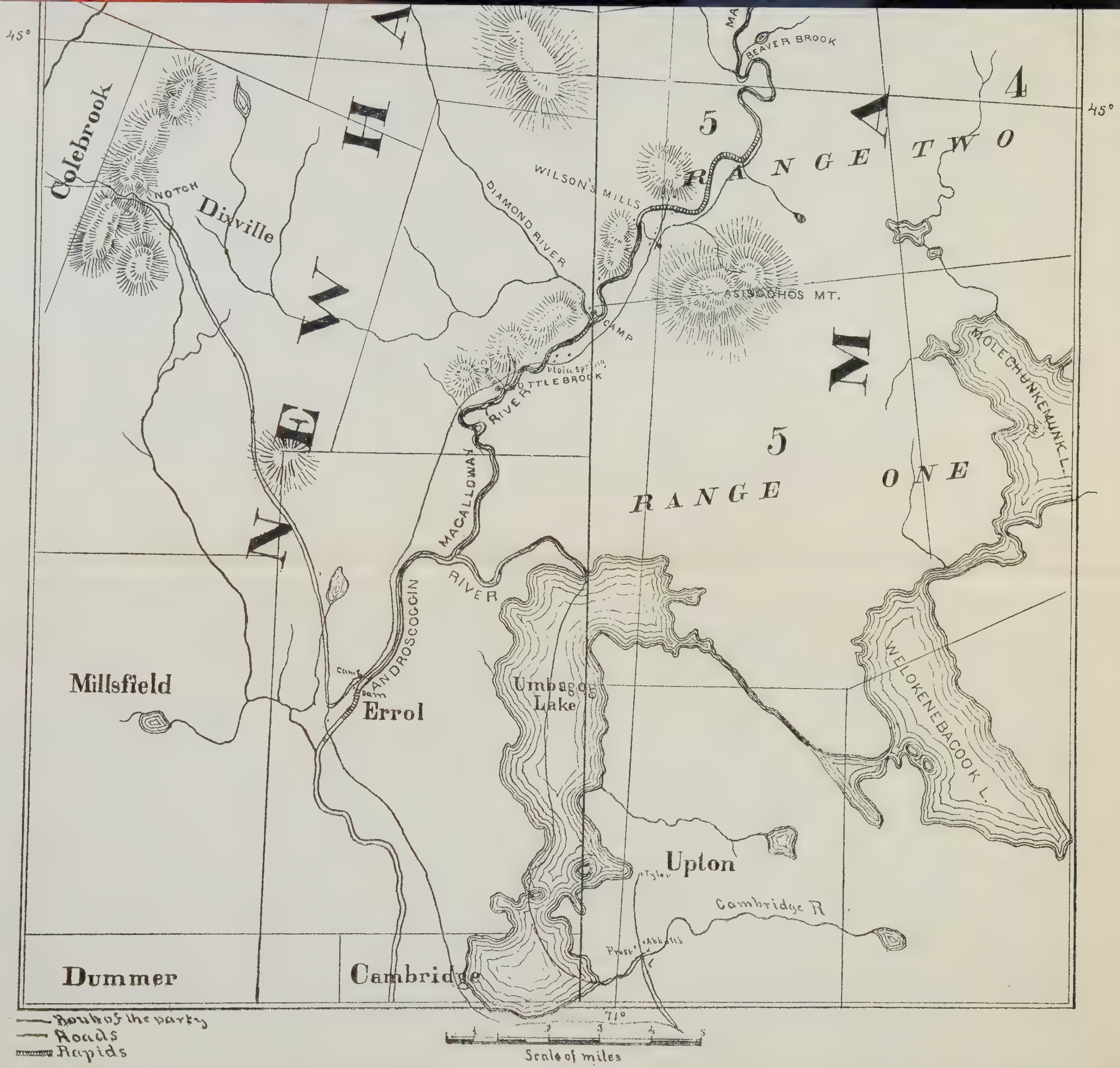
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Viola spring
BOTTLE BROOK
MACALLOWAY RIVER
MOLECHUNKEMUNK L.
WELOKENEBACOOK L.
Colebrook
NOTCH
Dixville
Millsfield
Errol
Camp
Dam
ANDROSCOGGIN RIVER
Umbagog Lake
Upton
Tyler
Cambridge R
Frost
Abbott's
Dummer
Cambridge
71°
1
2
3
4
5
Scale of miles
Route of the party
Roads
Rapids

streaming over old Saddleback and Speckled Mountains, changing the dark and somber hues of night into gold and purple morning. The view from the top of B. hill, looking back among the lakes and mountains just being touched by the mellow light of the rising sun as it leaped from one to another in its onward course, was like a fairy scene, and as I gazed back at the familiar peaks that we had spent so many pleasant days among I could but feel a regret at parting with them. It was like parting with old friends. We arrived at Bear River Notch at about eight o'clock. The country above the pass through the mountains was beautifully colored by the frosts but below there were but few marks of it.

We arrived at "Poplar Tavern" at nine o'clock, where we stopped about ten minutes, and drove on to the ferry over the Androscoggin river, where we arrived at twenty minutes past ten. Both of the teams drove on at once, loading the scow pretty well down. The ferry boat is a very flat scow, just long enough to take two teams at once. It has no deck, but the carriages are driven on over a plank laid down for an inclined plane at one end and down into the bottom of the boat. At half past ten we arrived at Lovejoy's Hotel, where we found Kimball who had arrived here safely and was a little better. At eleven o'clock we took the cars and were swiftly whirled over the Grand Trunk R.R. to Portland, where we arrived at noon, and came to Boston by the good steamer *Montreal,* Capt. F. A. Prince. Having been gone eighteen days and enjoyed the trip very much.

OUR MAGALLOWAY BOATS IN THE RIPS

THE WHITENESS OF THE WHITE MOUNTAINS

by Robert L. M. Underhill

Why were the White Mountains given this name? No record of the original act of naming, let alone of the reasons behind it, has come down to us. So we seem reduced to making conjectures supported only by circumstantial evidence. And rival hypotheses, the Snow Theory and the Rock Theory, are in the field. The Snow Theory, at first the more plausible of the two, becomes more and more improbable upon further investigation, says F. W. Kilbourne, our outstanding authority upon White Mountain history; and he himself inclines to the Rock Theory, namely, that the mountains are so called "from their white or whitish-gray aspect when seen from a distance, which appearance is due partly to the bare grayish rocks of the treeless summits, but chiefly to atmospheric conditions". But, reviewing the whole subject, he concludes that the question is not one which can be definitively settled; let everyone make his own choice of theories, with the assurance that he cannot be proved wrong.[1] And this attitude, that history suspends judgment, leaving the decision to individual preference, seems to have become the prevalent one today.

To me this disposition of the matter is not acceptable. Here we have, on the one hand, a very simple name, undoubtedly applied in a simple and obvious sense by a group of practical people; and on the other hand, a small group of mountains now known from end to end, at all seasons and in all their aspects. Not much should be necessary, in the way of historical evidence, to enable us to put these two together and obtain a reliable result. And this sufficiency of evidence I believe that we possess. In what follows I propose to re-examine the available material with the object of showing that, when properly pieced together, it does in fact tell us "beyond the possibility of a reasonable doubt", as the lawyers say, to just what circumstance our mountains owe their name. All this may seem much ado about very little, but even some persons not interested in White Mountain history may perhaps be willing to lend an ear to a bit of argument just for the argument's sake.

* * *

At the start we can set down two guiding principles which seem to lie beyond controversy.

Robert L. M. Underhill, former editor of Appalachia, has made a special study of White Mountain history and literature.

[1] *Chronicles of the White Mountains,* Introduction, xxiv. The valuable discussion, which extends to p. xxix, will frequently be referred to.

(1) The name as originally used applied only to the high summits of the Presidential Range; indeed, we first meet it in the singular, referring to Mt. Washington alone. (See the quotation from Winthrop, below.) Even in the first half of the 19th century "the Franconia Mountains" and other minor groups were customarily distinguished from "the White Mountains", and it is only in our own time that the name has finally come to cover all the ranges of northern, central and southwestern New Hampshire, and maybe even more.[2] Hence it is only in the character of these few lofty untimbered summits that we must seek our explanation. For the great mass of the present White Mountains their name may in fact be anything but appropriate.

(2) The name arose among persons who knew the mountains only from a distance, and not intimately; there is every reason to believe that it is due to sailors who used them as landmarks when off the coast. We know for a fact that the mountains were first noticed by such sailors. Earliest mention of them is by Giovanni da Verrazano who, passing along the coast in 1524, remarks that "distant in the interior we saw lofty mountains".[3] That they became well known to navigators is shown by a passage in Christopher Levett's account of his voyage in 1624: "there is no ship ariues in *New England,* either to the West so farre as *Cape Cod,* or to the East so farre as *Monhiggen,* but they see this Mountaine [i.e. Mt. Washington] the first land, if the weather be cleere".[4] The name itself first occurs in Winthrop's journal, in a note chronicling the first ascent of Mt. Washington in June, 1642. "One Darby Field . . . went to the top of the white hill."[5] The form of this statement certainly implies, not that Field himself christened the peak "the white hill", but that it was already so known and identified at the time he made his ascent. Before Field, however, no white man had ventured even to approach the White Mountains.

(But may it not be an Indian name, taken over by the whites? The Indians, though they had probably not climbed any of the mountains, had certainly viewed them from near at hand, since they had villages at Pigwacket (Fryeburg and Conway). However, (a) there is no evidence that before Field's trip the whites had even made contact with the Indians of the mountain region. (b) If it is a translation of an Indian name, what has happened to the original, of which we hear nothing? At least one early writer might be expected to mention it, but all the Indian names which we now possess for the White Mountains became known only long after the English name had established itself. Finally, (c), it does not sound like an Indian name, being flat and commonplace, as such names characteristically are not.[6])

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[2] According to Nevin M. Fenneman's *Physiography of the Eastern United States* (New York, 1938), pp. 346-7, a recognized authority, the White Mountain region includes the hills of eastern Vermont and extends to the northeast beyond Katahdin. In popular usage, however, the name is not so widely applied at present.

[3] *Sailors' Narratives of Voyages Along the New England Coast, 1524-1624,* edited by George Parker Winship (Boston, 1905), 22; Kilbourne, *Chronicles,* 17. Most of the important source material is either quoted or admirably summarized by Kilbourne, and references to his pages will be included for convenience.

[4] *Sailors' Narratives,* etc., 268; Kilbourne, 19.

[5] John Winthrop, *History of New England from 1630 to 1649,* edited by James Savage (2d edition, Boston, 1853), II, 80; Kilbourne, 20. Speaking of the second ascent, made four months later, Winthrop uses the plural: "Mention is made before of the white hills". *Ibid.,* II, 107.

Now for the method of inquiry. I intend to distinguish two questions, which are to be taken up separately, since radically different types of evidence are required for their solutions. The fact that these two questions have regularly been handled together, and in particular that the first has never been posed and answered as a necessary preliminary to the second, is perhaps the chief reason why discussion of this whole topic has always foundered.

Q1. What the White Mountains presented to the men aboard ship was a certain white appearance, of which the cause, being at a great distance, was as yet unknown. Our first question is, of just what sort or quality was this appearance, taken merely *as* an appearance? Scientifically speaking, white may be a single determinate color, but in popular usage it has several varieties. There are, for instance, pure white and white that is more or less adulterated or grayish; brilliant, glistening white and white of a dull, chalky finish. For our purpose these can perhaps be reduced to three species: first, a brilliant pure snow-white, that of snow itself, of cumulus clouds in sunshine, of swift turbulent water, and of ocean foam; second, a dull but pure white, that of chalk or white paper, of paint, powder and pigment; and third, a more or less impure white, mixed with black or some other color, and likewise dull. Now, the whiteness which impressed the early observers was one of these particular whites, and it behooves us first of all to ascertain which. To settle this point historical evidence is required, and only such is relevant. The observers themselves, or persons who were presumably in contact with them, must describe for us the precise quality of the white appearance which met their eyes and was the immediate reason for their giving a name to the mountains. But, in considering this evidence, we shall treat as irrelevant, as mere *obiter dicta,* any opinions which these same early writers may have to offer concerning the *cause* of the white appearance. For on this subject they were really not competent to speak, knowing very little indeed about the actual structure of the mountains and the conditions which existed upon them.

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[6] See Kilbourne, xxix-xxxi, on the Indian names for the White Mountains.

Q2. This question of the cause, of just what produces the given appearance, is something else again, and needs to be handled separately. It is evident, for instance, that a snow-white appearance may be presented by other substances than snow, while snow itself may not always appear snow-white, e.g., when in shadow, or besprinkled with soil. So our second question runs: what, in fact, caused the white appearance of the mountains at the time when it gave rise to their name? This question is primarily one of natural fact, and only incidentally one depending on historical evidence. In order to answer it we have to consider the physical characteristics of the mountains as they actually are, independently of anything the older writers may have thought or said about them. We ourselves are in far better position than any of our ancestors to decide upon the true cause of the alleged white appearance.

Q2 is the more fundamental, but Q1 is an indispensable preliminary. For there is no point whatever in our figuring out causes that will make the mountains appear white until we know just what sort of whiteness we have to explain. And when we do know this, a useful result will be that certain theories can confidently be excluded on the ground that the agencies which they recommend, while capable of producing *a* white appearance, will not produce *the* specific white appearance by which the early sailors were impressed.

Beginning with Q1, the first piece of evidence I wish to offer is of high antiquity; in fact, it even antedates the known use of the name "White Mountains". Apparently before the mountains were so called, and alternatively for a time afterwards, they (or Mt. Washington) rejoiced in the fancy appellation of "the Cristall hill(s)", smacking of a tale by Sindbad the Sailor. This name, says Kilbourne, is first found in Christopher Levett's *Voyage into New-England,* published in 1628, and "appears to have been the common one in the earlier part of the seventeenth century".[7] Whether it referred only to outward appearance, or whether it also, as seems likely, embodied a theory of what lay behind the appearance, its use furnishes us with an unambiguous answer to the question of what sort of whiteness the mountains presented to the men on the sea. None of your dull, chalky effects, none of your dirty grays, about this! The adjective conjures up the picture of a glittering, frosted cone, a sparkling icecap. Nothing will satisfy it save the radiant whiteness of snow; indeed, it even goes the brilliancy of snow one better.

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[7] *Chronicles,* xxv, and cf. p. 20, note 1; *Sailors' Narratives,* 268.

This might seem to decide Q1 for us right away. But a fussy critic may object that the whiteness which occasioned the name "Cristall Hills" may not have been the same as that which later occasioned the name "White Hills". Two different views or aspects of the mountains might be involved, he might argue. The substitution of the second name for the first may exactly reflect the fact that the brilliant snow-whiteness was found not to be permanent, so that a more sober designation, taken from a duller appearance, became desirable. (A more natural explanation of the substitution is surely that the name "Cristall Hills" lapsed when Mt. Washington was discovered, by Darby Field and others, not in fact to be covered with crystals. Dates agree.) While such an argument seems more ingenious than plausible, it does damage the cogency of our bit of evidence, so let the next witness be called.

He is John Josselyn, an Englishman who first visited New England in 1638 and later lived there from 1663 to 1671, collecting information about the country. In his delightful book, *New England's Rarities Discovered,* published in 1672, he undertakes among other things to describe "a ridge of Mountains . . . known by the name of the White Mountains, upon which lieth Snow all the year".[8] Evidently, as Kilbourne observes, he regards the presence of the snow as the reason for the name, but in this opinion as such we are not interested. For it enters upon the topic of Q2 and is not worth much in any case, considering Josselyn's ignorance of the actual conditions on the mountains. Our line at present is to extract from his words, if possible, an answer to the more modest inquiry of Q1. And such an answer they contain by implication. For if Josselyn believes that there is constant, or nearly constant, snow on the mountains, he must believe that their characteristic appearance is snowy white. In fact, the actual course of his thought was probably in the reverse direction: because the mountains look snowy, they must be snow-covered—the second (about which he really knew very little) being a conjecture to explain the first. Where, then, did he get his notion of the snowy look? Possibly he had seen it himself, from the ocean; more probably he simply accepted it from current opinion. But, in his early day, this opinion must have been shaped by the very people (sailors) who had themselves seen and named the mountains. So, on the subject of Q1, Josselyn is a most important witness, perhaps a sufficient one.

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[8] Reprinted in *Transactions of the American Antiquarian Society,* IV (1860); see p. 139. The whole passage, which has become a classic, is quoted by Kilbourne on p. 23. In a later book, *An Account of Two Voyages to New England,* he admits that there is no snow on the mountains in August. Kilbourne, 24.

We have no further evidence for a quarter of a century, which brings us down fairly far from the time when the name was given. Nevertheless, since there are so few early writers who deal with this subject, let them all speak. In 1749 another visitor, Dr. William Douglass, has this to say: "The White Hills, or rather mountains . . . are called White, not from their being continually covered with snow, but because they are bald a-top, producing no trees or brush, and covered with a whitish stone or shingle."[9] This tells us nothing of value. The passage is again in the form of an answer to Q2, and from that point of view it is mildly interesting as showing that the Snow Theory had been given up and, on equally poor information, a false Rock Theory substituted. But it is of no help for the settlement of Q1 because of its failure to be specific in regard to the look of the "whitish stone or shingle". With stuff thus vaguely described any quality of white appearance would be consistent.

But the next witness, who belongs to the same general school of thought, does much better. This is Major Robert Rogers, organizer and sometime leader of the famous Rogers' Rangers. Writing in 1765, he says that the White Mountains are "so called from their appearance, which is much like snow, consisting, as is generally supposed, of a white flint, from which the reflection of the sun is very brilliant and dazzling".[10] The answer here given to Q2, agreeing with that of Douglass, is avowedly a pure speculation, for Rogers goes on to confess that he has never been up the mountains himself and avers that he "cannot learn that any person was ever on the top"! But what interests us is the explicit answer to Q1. Rogers agrees entirely with Josselyn that the white appearance is brilliant and snow-like in quality. And this is all that we want him for.

One final piece of evidence before the century closes. On a map of 1794 stands the note: "The White Hills appear many leagues off at Sea like White Clouds; just rising above the Horizon".[11] Once more, the whiteness of snow, for from a distance no two things are more easily confused than a snow mountain and a cumulus cloud.

Thus far, our authors are all in agreement upon the topic of Q1, whatever differences they develop when passing beyond this and attempting to deal with Q2. The whiteness of the White Mountains is universally held to be the whiteness of snow. And by the beginning of the 19th century we have come down about as far as we should, if the opinions expressed are to have any value as reflecting the original tradition. It is not until 1809, in a book by E. A. Kendall,[12] that we come upon any suggestion that the whiteness might be of another sort. But, besides the disabling circumstance of his very late date, there is a conclusive reason for throwing out anything Kendall may have to say on the subject of Q1. Like Josselyn and Douglass, Kendall was an English visitor who had to obtain his information about the White Mountains by making inquiries of others; unlike the first two, however, he asked the wrong people. At the time of his visit the interior of New Hampshire had been settled, and he took the course, which in general might seem intelligent enough, of questioning the inhabitants of the White Mountain region. But, as we saw at the outset, the mountains were named, not by residents of the area who saw them relatively close at hand and at all seasons of the year, but by sailors who saw them from a long distance away and only (or preeminently) at certain seasons. Consequently, nothing which Kendall learned about their white appearance has any weight whatever as a contribution to the settlement of Q1, and as a witness upon this point he may be dismissed without more ado. (He will reappear later in another connection.)

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[9] *A Summary, Historical and Political, of the First Planting, Progressive Improvements, and Present State of the British Settlements in North-America* (Boston and London, 1755), I, 392. (The first edition appeared in 1749.) Kilbourne, xxvi.

[10] *A Concise Account of America* (London, 1765), 47. Kilbourne, xxvi-xxvii.

[11] Kilbourne, xxiv, note.

To sum up this investigation of Q1. I submit that we may fairly consider it established by the testimony of near-contemporaries that the whiteness for which our mountains were named was a pure, brilliant whiteness describable as the whiteness of snow, whether in this particular instance it was actually due to the presence of snow or not. And this answer is surely what one might expect. All over the world there are mountains, mountain ranges, and parts of mountains called white in the sense of snow-white (and generally in virtue of the actual presence of snow).[13] It is the rule that white, used of mountains, should refer as specifically to the white of snow as green to the green of trees. We might put the situation this way. Everybody knows that there are plenty of mountains throughout the world with snow-white summits, and the existence of these sets the standard for the quality of white in connection with mountains; it tells us what we ought to demand in the way of mountain whiteness. To call a mountain white and mean, not the pure, brilliant whiteness of snow but some dull, chalky tint or murky gray, would be felt as a misnomer: the thing just doesn't measure up to its name. Personally, I haven't been able to track down a single case of a mountain or mountain range called white, where the whiteness intended was other than the whiteness of snow (whether actually caused by snow or not). If our White Mountains are such a case, they are a very remarkable exception to the rule, and the burden of proof ought surely to lie heavily on anyone who so maintains.

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[12] References below.

[13] When the adjective "white" appears in the names of mountains of high altitude—such as some of the Alps, Andes, or Himalayas,—where *all* the peaks are more or less snowy, it denotes mountains with large expanses of snow unbroken by dark ribs or ridges of rock. Thus in the cases of Mont Blanc, the Weisshorn and the Weissmies.

* * *

Now for Q2: what in fact caused the white appearance (we can now say, the snow-white appearance) of the White Mountains at the time when it occasioned their name? Before taking up this question on its merits let us cast a glance at the history of opinion concerning it.

The earliest theory, probably expressed in the name "Cristall Hills", was apparently to the effect that the whiteness of the mountains was due to their being clothed in glittering crystals. When the expeditions of Darby Field and Thomas Gorges, in 1642, exploded this pretty conceit,[14] the view was substituted that they lay under perpetual, or nearly perpetual, snow (Josselyn). This of course was the obvious view under the circumstances: if a mountain looks snowy, it probably really is snowy. Like a good many naive notions, however, it might prove in the end to contain the essential truth. When it was given up we do not know, as there are no detailed records of ascents for the next hundred years. Given up it was, however, and in its place there was produced out of whole cloth the theory that the mountains were composed of a special kind of gleaming white rock (Douglass and Rogers). In itself this theory (which we may denominate Rock Theory No. 1) is possible enough: the White Cloud Peaks of central Idaho, for instance, consist of a beautiful white limestone which from a distance makes them appear quite indistinguishable from exquisite snow mountains. But in application to the White Mountains the theory met its fate when, in 1784, the historian Jeremy Belknap visited the region at the head of a party of scientists, some of whom climbed Mt. Washington. Belknap writes:

> Should you ask what is the cause of the *white* appearance of these mountains, I would tell you in one word,–*snow*, which lies on them, commonly, from September or October till July. There is no white moss, nor white flint, nor white rocks, which can give any such reflection as is caused by the *snow*; and, after the snow is gone, they appear, at the distance of 60 or 70 miles, of a pale blue, inclining to a sky colour; at the distance of 10 or 15 miles, they are of the gray colour of the rock, inclining to brown.[15]

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[14] Kilbourne, 20-23.

[15] Letter to Ebenezer Hazard. *Belknap Papers* (Collections of the Massachusetts Historical Society, Fifth Series, Vols. 2 and 3), Part II, 188-9. Cf.

Thus matters stood at the end of the 18th century. And I think they were in pretty good shape. Belknap, a keen observer and person of judgment, spoke very much to the point: he had the right answer, and he said the essential things in rejection of the wrong ones, both past and to come. But he did not do his own view justice, or provide against the obvious objections. And so the discussion went on.

With the 19th century came scepticism, a scepticism which has persisted down to our own day. So now let us investigate Q2 for ourselves. The essential point is, whether there is really enough snow on the White Mountains to produce the required snow-white appearance.

The case for the negative is familiar enough. It is easy to point out that throughout the summer and early fall the high Presidentials are not snow-capped, while in the winter and early spring their snowy condition is not unique and so not distinctive. Let us start with the second point.

Now it is only for a short period immediately following a storm that forested and unforested summits look equally white in winter; as soon as the snow has sifted down from the branches to the hidden ground below, the forested summit loses most of its gleam, while the treeless peak continues to show a full spread of white. Nowadays, as it happens, anyone can convince himself of this easily enough: simply get the view north, on a fine winter's day, from the top of the Wakefield hill on the new location of Route 16. The pure white band of the high Presidentials contrasts strongly with the spattered white and dark of the nearer Sandwich Range. The difference is even more marked in spring, when under constant melting and refreezing the snow consolidates on bare summits but completely leaves the branches. Moreover, of course, in spring as in the autumn snow may fall only at the higher levels. Certainly the snowy cone of Mt. Washington as it appears in May and frequently in November is an object distinctive enough. Viewed from the ocean, where even the other, forested summits are invisible and the foreground is constituted by the completely snowless lowland, it must be striking indeed.[16]

But, it may be claimed, all this talk about winter and spring snow is immaterial and irrelevant, whereas the fact that no snow

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ibid., Part I, 394, and *History of New Hampshire,* Vol. 3 (1792), Chap. 4, pp. 46-8. To this admirable passage it might only be added that while there is some white quartz on the summits, it occurs in much too small quantity to affect their appearance as seen from a distance.

[16] "I once saw them [the high Presidentials] in April from Monadnock, seventy-five miles south; 'White Hills' they were then, too, great mounds of white looming on the horizon, Arctic enough in appearance, while the landscape around Monadnock was of that drab tone which just precedes the first delicate tinges of verdure." Brooks Atkinson, *Skyline Promenades* (New York, 1925), 30.

lies on the mountains in summer is crucial. Says Samuel Adams Drake, whose talent, to be sure, is rather that of a free-wheeling storyteller than a historian or scientist: "For six months of the year at least [the white appearance of the summits] has no connection whatever with the snows which cover the highest peaks only from the middle of October to the middle of April, a period during which few navigators of the sixteenth and seventeenth centuries visited our shores, or, indeed, ventured to put to sea at all."[17]

In these statements Drake happens to be simply and demonstrably wrong. The snow-cap on Mt. Washington often persists until sometime in June, while rime may temporarily whiten the summits even later, and in early fall. And we have definite dates for several voyages which reached the New England coast well before that time. In 1524 Giovanni da Verrazano sailed from Europe on January 17, reached the Carolinas early in March, and thence cruised north, passing the New England coast in May. In 1602 Bartholomew Gosnold left England on March 26 and arrived at Cape Neddick, Maine, on May 14, whence he cruised south. In 1605 George Weymouth left England March 31, reached Nantucket May 14, and Monhegan Island, Maine, May 18. In 1614 Captain John Smith, sailing from London, reached Monhegan in April and "ranged the coast both east and west", from Penobscot to Sagadahoc, for the next three months.[18] Furthermore, in these accounts there is frequent mention of meetings with other vessels, fishing and trading, which likewise were off the New England coast in the springtime. As for the other end of the year, Winthrop's journal records several instances of ships which arrived from England, or from the Maine coast, in November or December. How some navigators, at least, felt about these months can perhaps be judged from the following case, not unknown to history: in 1620 a little ship called the *Mayflower* left Plymouth, England, on September 6 and made her first landfall in America on November 9.

Thus it would easily have been possible for the early voyagers to observe the White Mountains when snow-capped. And in fact the question may seriously be raised whether they had much chance to view them under other conditions. An amateur yachtsman, much given to cruising about in Portland waters, informs me that in summer the fog is so constant near the land that he does not remember ever having seen Mt. Washington. And this was confirmed to me a few years ago, from the other end, by a member of the Observatory staff. Asked on how many days during the months of July and August the ocean was likely to be visible, he replied, "On about two". With winter and high summer both excluded, we can at least say that the sailors had something like a fifty-fifty chance of seeing the high summits white with snow.

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[17] *Heart of the White Mountains* (1882), 121; Kilbourne, xxvi.

[18] *Sailors' Narratives.* "Sagadahoc", according to Leroy D. Cross, is the old name for Popham Beach at the mouth of the Kennebec River. The first vessel built in America was constructed there in 1607.

But this is all, and more, than we need. For when it comes to explaining the meaning of a name, statistics as such are of little relevance. We must take to psychology. The giving of a name is not a logical affair; only very rarely, and by accident, is it a just and reasonable description of the object. What the name commemorates is some characteristic, or perhaps only some connected event, which had the property of being *striking* to a given observer at a given moment. Take a hypothetical case, but one which very likely happened in actual fact, and that more than once. For years the settlers in a new region may refer to a certain nearby mountain merely as "that hill over yonder", without bothering to name it at all. Then one day somebody runs into a bear somewhere upon its slopes. Forthwith it is dubbed "Bear Mountain". Nobody, before giving or accepting the name, thinks it necessary to check up on whether there really are more bears on this mountain than on others of the region, or on whether the bears continue to hang around there in subsequent months and years. Bear Mountain it becomes and Bear Mountain it remains, though perhaps nary a bear is ever encountered upon it again.

Similarly in the case before us. Year after year, for an indefinite period, sailors might have observed a drab Mt. Washington, in early summer or early fall, without ever being moved to speak of it as more than "that big mountain back inland". Then, one fine day in May, a certain crew happen to be in just the right position and its glittering, snowy crest blazes out at them, startling their vision. Now, they feel, *that's something!* There and then the mountain becomes honored with the name of "the Cristall Hill" or "the White Hill", and this name sticks to it unchallenged through the other months when its burst of glory has passed and its summit is no longer either white or crystalline. Thus Monte Rosa, of the Alps, possesses its ruddy glow only at sunset and in fine weather, and our various examples of "Blue" Mountains are such only when seen from a certain distance and under certain atmospheric conditions.

Hence it would appear that such snow as we have on the high Presidentials is sufficient to explain the snow-white appearance which procured for the White Mountains their name. But a theory cannot be considered as well established until its rivals have been cleared away, and one such there is, as mentioned at the outset.

In 1809 the English tourist Edward Augustus Kendall, who has already been introduced, propounded an entirely new set of ideas.[19] Kendall maintained, on the strength of local assurances and his own experiences in a similar region, that the White Mountains, together with all others of bare rock, whatever its color, appear white even in the summertime when under bright sunlight, provided they are viewed "from a considerable distance" and through an atmosphere of low humidity. The whiteness is simply an effect of the brilliantly reflected light. In justice to Kendall it must be remarked that he himself does not argue that the mountains owe their name specifically to this summertime appearance of whiteness; he seems concerned only to insist, against Belknap, that they are somehow or other white all the year round and not merely when snow-covered, thus justifying their name in fuller measure. But he started a line of thought which clearly could be developed into an alternative to the Snow Theory, and in this sense Mr. Kilbourne brings it forward, in the passage quoted at the outset. Let us denominate this Rock Theory No. 2 and proceed to discuss it for what it may be worth.

Now, thanks to our previous determination of Q1 we possess a sure touchstone for the testing of this theory; we can confront it with a crucial experiment. Will the bright reflection from bare rock give the appearance of the whiteness of snow? Not just any old whiteness, not some peculiar whiteness of its own, but *the whiteness of snow*. For this we must unconditionally have.

Kendall himself makes no claim that it will. In the whole seventeen pages which he devotes to the discussion of this subject there is not a word about the specific quality of the whiteness whose existence he is maintaining. He seems to feel, vaguely, that it is enough if the mountains have some sort of whiteness in summer, to set beside the whiteness of winter. It seems most probable that he did *not* think the whiteness of rock reflection to be that of snow, for since his case would be improved the more the whiteness of summer approximated that of winter, no doubt he would have insisted on this point if he had felt that he properly could. Mr. Kilbourne, on his part, speaks only of a "white or whitish-gray aspect". But this is not nearly good enough to meet the requirements. We must see whether the theory can possibly do better.

In the Sierra Nevada of California it is by no means an unusual experience for the bare granite of the summits to be mistaken from a distance for snow. Francis P. Farquhar cites two instances of this in an account of an early exploring party, and adds: "Thus may one today in clear weather behold the brow of El Capitan from the plains of the Merced and be in doubt whether it is truly the great rock or a patch of snow".[20] From personal experience I can testify how compelling this illusion may be. On first beholding the High Sierra one bright August morning from a pass at the head of the Owens Valley I was ready to take oath that those must be snow mountains, and only with the greatest difficulty could I accept the assurances of my companions, members of the Sierra Club, that such was not the case.

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[19] In his book *Travels through the Northern Parts of the United States in the Years 1807 and 1808* (New York, 1809), III, 178-85. Kilbourne, xxvii-xxix.

But California conditions are perhaps in a class by themselves. How do things stand in New England?

A somewhat similar phenomenon is not entirely unknown. Colonel Thomas Wentworth Higginson and his party are climbing Jobildunk Ravine on Moosilauke late in the afternoon of a summer day, just before a violent thunderstorm:

> An opening in the woods showed the ravine behind us, dark, almost black, with shadow; but beyond this the sunlight was so poured on the western[21] slope of Mount Washington and his companions as to make them glisten in double prominence, and it was almost impossible to believe that they were not snow-covered,—I do not mean coated with continuous and dazzling snow, like Mont Blanc, but rather clad in that scattered and sprinkled whiteness which clings upon the terrible peak of the Matterhorn.[22]

This isn't too satisfactory, and even so it seems to stand alone. I have come across no other passage in White Mountain literature where the snow-white appearance of the summer Presidentials is seriously remarked upon.[23] For my own part, I have never had a view, near or far, of Mt. Washington in summer when there was the slightest chance of confusing it with such a snow-spattered mountain as the Matterhorn, let alone with a "Cristall Hill". If there are occasions when the mountain appears snow-white they must be precious few, and it would be a lucky mariner indeed who happened to be on hand for one of them.

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[20] "Spanish Discovery of the Sierra Nevada." *Sierra Club Bulletin,* 1928, 60-61.

[21] The original has "eastern", clearly a misprint.

[22] "A Search for the Pleiades." *Atlantic Monthly,* Vol. 46 (November, 1880), 662.

[23] Unless indeed the following can be rated as such. The party are coming up the Ammonoosuc valley toward Fabyan, in the middle of August. "The scenery as you approach the mountain [Washington] increases in grandeur. Vast and interminable ridges of mountains rise on all sides. . . . The white peaks of these mountain groups, appearing as if snow-clad, tower above all other objects and hide themselves in the clouds." (G. W. Nichols, "Popular Notices of Mt. Washington and the Vicinity", *American Journal of Science and Arts,* Vol. 34 (1838), 74.) But in this inflated description there is surely far more of rhetoric than of accurate observation.

Indeed, the distance could scarcely be right. For the white appearance which he postulates Kendall demands "a considerable distance", yet there can easily be too much. At large distances all mountains appear blue, in our humid atmosphere. The white appearance must fit in between the gray of a near view and the blue of a very far one. Belknap, in the quotation given above, assigns 10-15 miles for the first and 60-70 miles for the second of these. Colonel Higginson's view of Washington from Moosilauke was at a distance of about 30 miles; Kendall gives no figures or other specifications for the views upon which he relies as evidence, but being such as were experienced by natives traveling about within the mountain region they must have been about the same. From Mt. Washington to the seacoast, however, the distance is a minimum of 60 miles.

With this we can perhaps drop the subject. If anyone wishes to see for himself just how the White Mountains got their name, let him drive north from Boston on a perfect day in early May; from Dover let him follow, not the new express road, but the old Route 16; and from the summit of the hill just south of Rochester he should catch a glimpse of the snow-capped high Presidentials, 80 miles away, "like white clouds just rising above the horizon".

* * *

I TOOK SOME TEEN-AGE CUBAN BOYS up Thorn Mountain and on the way back warned them to slow down and go carefully because the dry leaves were slippery. Soon one of the boys in front of me grabbed a tree to break his speed. Then he stopped suddenly, looked at his hand, then looked around the trunk of the tree and up and down it, while talking excitedly in Spanish, which I could not understand. Another Cuban boy joined in the excitement, at the tree. When I reached them the first boy, indicating something sticky on his hand and pointing to the pine tree, asked hopefully, "Maple syrup?"

RUTH KIMBALL WILKIE

FOODS FOR TRAIL AND CAMP

by STANLEY W. STOCKER

THE FIRST CAMPING EXPERIENCE that a person has should be an enjoyable one. One thing I deplore is the roughing-it type of camper. According to him, if you enjoyed the trip and were comfortable you just weren't doing real camping. He believes in taking people out on their first camping trip and feeding them burned hot dogs and beans. Then he wonders why they will never come out with him again. As for me, I see no reason why people cannot have as good food on the trail as they do at home—with the exception of high-altitude campers for whom the determining factor is weight.

The last few years have seen many tremendous improvements in specialized foods that are light and also tasty. Many veterans are prejudiced against dehydrated foods because of their experiences with them in the war. But we must keep in mind that this was thirteen years ago and since then food lines have shown much progress. The multitude of concentrated foods which can be obtained from camping outfitters, as well as from many supermarkets, indicates moreover that there is a large variety available.

The dehydrating process has changed markedly during the past five years; today there are many dehydrated foods whose flavor comes extremely close to that of fresh foods. Keep in mind that these foods are intended for use when weight is critical; don't expect 100 percent perfection. But rather remember that 64 percent of the weight of most fruits and vegetables is water, which does not need to be carried. If you plan to be on the trail for much over five days, and want a variety of foods, you will either have to use dehydrated and concentrated foods, or arrange for food-drops along the way in advance of your trip.

You should pre-test any food for trail use just as you would any new equipment. If you cannot turn out a good dish of dehydrated or concentrated food on your stove at home you certainly haven't much hope of being happy with the same dish on the trail. Experiment with these foods. The addition of butter, Accent, various herbs, etc., will in many cases make the difference between a fair

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You may have met him some February in Tuckerman Ravine with a group of students, each carrying a different type of pack. The equivalent loads inside are made up of a startling variety of food and equipment items which are under test.

This is the first of a series of articles by Professor Stocker on camping equipment.

dish and an excellent one, on the trail as it does at home. Keep an open mind about dehydrated foods. Try them out.

Many potentially fine trail foods are available in the larger food stores. French's instant potato in aluminum foil envelopes, many soups and mixes, are all ideal for outdoor use and readily available. Many canned meats and other main dishes can be used when weight is not of vital importance. Canned roast beef is very good for camping.

One development in camp food is the packaging of concentrated and dehydrated foods in plastic packages. These usually serve four people. Many of the major food companies (Gumpert, Bernard, Bolton Farm Packing, Hilker and Bletsch, etc.) prepare a wide variety of foods in these packages. These offer real ease to campers since only water is needed to prepare them. But it must be remembered that polyethylene is resistant to moisture in liquid form but not in vapor form; long-term storage, therefore, is not wise, especially in moist areas. Also, it must be kept in mind that strong odors, such as that of onions, will pass through plastic; these foods therefore should be wrapped in aluminum foil either before or after packaging. Always check the seals of packages to make sure of protection. Here again it is important to try out these foods before taking them on the trail. The extreme variations in personal tastes make this of vital importance. Check, too, on the size of servings. In the absence of specific experience I should recommend assuming that each package meant for four will serve three. This is safer—it's not good to run short on the trail.

The high-altitude camper has a special need for high-calorie foods. Many of these packaged trail foods will be useful to him. However, it is possible to package these foods at home. Gerry Cunningham (Ward, Colorado) sells an excellent pamphlet, *Food Packing for Back Packing*. His coverage of this field is thorough and I feel that the publication is well worth the $1 charge for anyone concerned with high-calorie, low-weight food for real go-light work.

Those campers who wish to pack their own foods in plastic bags can keep down costs by purchasing in large quantities and then packaging for specific trips. This also has the advantage of allowing you to pack for any desired number of people. (The organizer of a major expedition told me that he cut his food costs 20-25 percent by purchasing in bulk and packaging for his needs.) Plastic may be purchased by the yard, flat or tubular. It is important that it be polyethylene and preferably of .003 or .004 gauge. The sealing can be quite effectively done with a hot iron but I would suggest that if you expect to be packaging in quantities you invest $5 in a heat-sealer, which will save a lot of time and effort.

Foods mentioned here are those which have been consistently well accepted by students at Springfield College during camping classes and trips over the last few years. They are those that I personally feel, from my own experience, to be outstanding and worthy of consideration when planning any camping or trail trips. The omission of any line or item, however, does not mean that it is not good.

Many of the specialized foods are still available on a very limited basis for individual purchase. Some sources that I recommend are listed at the end of this article. The Bolton Farm Packing Company, who have extensive experience in the preparation of prepackaged meals for trail crews and other wilderness survey teams in both Canada and South America, plan eventually to become a source for all foods that one may desire for personal trail and camping use. While they offer the Chuck Wagon line of foods primarily in units of ten (each unit serving 2, 4 or 6 according to specifications), they will sell individual packages in any quantity desired. They may ultimately offer A.M.C. members a good central source of supply for camp food needs.

I have found that thirty minutes of soaking is adequate for the rehydration of most foods but, here again, each item has individual needs that can be determined only through your personal experience.

The following classifications of foods are adopted for this article, but may not necessarily be the best for other purposes.

Explanation. Following the item and comments upon it there is given, in parentheses, an indication of the source from which it may be obtained, quantity and price. The Roman numerals refer to the sources as listed at the end. The Arabic numerals, followed by prices, indicate the number of servings obtainable at that price. The letter "Q" after a Roman numeral signifies that the product is obtainable from the source mentioned only in quantity.

The prices listed do not include postage. In most cases appreciable savings will result from buying in quantity.

VEGETABLES AND FRUITS

Potatoes, Diced. Pre-soak 20 min. Mix with onions. Butter helps. Average serving, 1¼ oz. (IX, Q.; IV, 2, 15c.)

Spinach Flakes. Look and taste good. Boil 3-5 min.; avoid overcooking. 2 oz. in 2 cups water yields 2 cups. (IX, Q.; I, 2, 20c.)

Onion Chips. Rehydrate 20-30 min. Excellent fried. Mix with potatoes or use on meat, etc. (IX, Q.; many food stores.)

White Onion Flakes. Rehydrate 20 min. For flavoring soups, stews, etc. 2 oz. for a yield of 2 cups. (IX, Q.; I, 2, 21c.)

Cabbage. Rehydrate 10-15 min. Primarily for salads. Flavor fair to good. (IX, Q.; I, 2, 21c.)

Carrots, Diced. Have been really improved during the last year; an excellent vegetable dish. Add butter. 2 oz. yields 2 cups. (IX, Q.; III, 2, 20c.)

Mixed Vegetables. Excellent for soups, main vegetable dishes, etc. Simmer about 30 min. (IX, Q.)

Beets, Diced. Cook 20-30 min. Add 1 cup water to 1 oz. and watch for water loss. For salads or side-dish with butter added. (IX, Q.; I, 2, 21c.)

Celery Stalks, Diced. ¼ in. Rehydrate 30 min. Good greens for salads or soups. (IX, Q.)

Vegetable Stew Blend. An extremely tasty dish with meat added. Simmer 30-40 min. Has hearty large chunks of vegetables. 2 oz. yields 2 cups. (IX, Q.; V, 12, $1.05.)

Vegetable Soup Blend. Simmer 30-40 min. Add chicken or beef base. (IX, Q.; I, 2, 26c.)

Mashed Potatoes au Gratin (Bernard). Good taste. Need plenty of butter. (V, 4, 60c.)

Instant Mashed Potatoes (Gumpert). Good. Add salt, butter, Accent. (II, 4, 34c.)

Instant Mashed Potatoes (H. & B.). Excellent when butter and salt added. (VII, 12 pkgs. serve 4 each, $3.56.)

Applesauce Mix (Gumpert). Sweet, but enjoyable. Simmer 20-30 min. Use slightly less water than indicated; add lemon crystals to make more tart. (II.)

Peach Nuggets (Trailwise). Very good. Simmer 20-30 min. (VI, 3, 45c.; 6, 80c.)

Date Nuggets (Trailwise). Mild flavor. Use a lot of water. (VI, 3, 37c.; 6, 67c.)

Other varieties that have generally stood up very well are available from Recreation Equipment, Inc. (V.)

MAIN DISHES

Scrambled Eggs and Bacon (Bernard). Very good, but tastes more like cheese than bacon. (IV.)

Spanish Egg Omelet (Bernard). Easily prepared, excellent taste with no dehydrated egg flavor. (IV, 4, 90c.; X, 4, 80c.)

Ham-Flavored Egg Omelet (Bernard). Pancake-like texture; very good. (X, 4, 80c.; X, 8, $1.48.)

Chicken Pot-Pie with Biscuit Bread (Bernard). This is tops, one of the best we have ever used. Easily prepared. (IV, 4, $1.20; X, 4, $1.05.)

Chopped Beef and Spuds (Chuck Wagon). Very tasty; highly recommended. (I, 2, 72c.)

Vegetable Dinner (Chuck Wagon). Very tasty, especially with added butter. (I, 2, 31c.)

Beef and Noodle Dinner (Chuck Wagon). Cook 20-35 min. Very tasty and filling. (I, 2, 61c.)

French Toast Mix (Gumpert). Good rich egg-taste. Mixes easily and browns nicely. (II, 4, 73c.)

Griddle-Cake Mix (Gumpert). Tasty and light; mixes easily. (II, 4, 26c.)

Griddle-Cake Syrup (Gumpert). Very good. (II, 4, 22c.)

Macaroni with Cheese (Gumpert). Cook 30-40 min., using slightly less water than called for; add salt and butter. Excellent filling dish. (II, 4, 70c.)

Vegetable Rice Dinner, Chicken Style (H. & B.). Greatly improved by addition of a small can of chicken. (VII, 12 pkgs. serve 4 each, $3.85.)

Chicken Gumbo Dinner (H. & B.). Filling; excellent in winter. (VII, 12 pkgs. serve 4 each, $4.70.)

Spaghetti-Tomato Dinner (H. & B.). Use about ⅓ less water. Tastes very good; don't be concerned over what it looks like. (VII, 12 pkgs. serve 4 each, $4.81.)

French Toast Mix (H. & B.). Good. (VII, 12 pkgs. serve 4 each, $3.25.)

Sliced Bacon. 12-oz. cans. (III, 95c.)

Chili con Carne (H. & B.). Simmer 30-40 min. Addition of dried beef helps. Quantity good. (VII, 12 pkgs. serve 4 each, $4.85.)

Freeze-Dried Meats. Rib-eyed steaks (VI, 8-oz. tin, $7.50); Pork loin chops (VI, 9-oz. tin, $6.00); Hamburger flakes (VI, 8-oz. tin, $3.75). Untested; reported to reconstitute in 20 min. to 3 times dry weight.

Dried Beef (VIII, 3-oz. tin, $1.50); **Dried Chicken** (VIII, 3-oz. tin, $1.60). Untested.

Bernard has just announced a 6-course Sirloin Steak Dinner at $2.98 and a 6-course Pork Chop Dinner at $2.26. These are individual services. Untested.

Soups

Only a few are listed, as these are not used extensively by most campers. A great variety are available.

Knorr-Swiss Mushroom. Good thick body, very tasty. Same, **Noodle Mix,** chicken-flavored. Butter improves; excellent. (VIII, 3-6, 38c., in alum.-foil envelope.)

Lipton's. Many varieties, all good. (Any food store.)

Drinks

Chocolate, hot or cold (Bernard). Good. (IV.)

Camp Special Cocoa (Gumpert). Good rich drink; mixes very easily. (II, 4, 31c.)

McKee's Crystals: Orange, Grapefruit. Both just as good as concentrates. Require no refrigeration. (I, 4-oz. can, 50c.; VI, 4-oz. can, 40c.; VI, 1-lb. can, $1.55.)

Cramore's Crystals. In general these are the best beverage-bases that I have used to date. They come in two forms: crystals, which require addition of sugar; and dri-syrup, which needs only water. Orange or lemon crystals, great for cooking as well as beverages. Lemon, grape, cherry, or pink lemon dri-syrup, all very good. (I, servings for 2, 4, 6; X, 10-oz. jars, or individual alum.-foil envelopes, 8c.)

Non-Fat Dry-Milk Solids (Carnation). Very useful for cooking and an excellent skim-milk drink. Mix a few hours before needed. (Any food store.)

Chocolate-Flavored Drink (Carnation). Good hot or cold. (As above.)

Powdered Whole Milk. Sealed in inert gas; keeps until opened. (X, 1-lb. can, 79c.)

Bread and Dessert Mixes

Bisquick (Betty Crocker). Many variations. Virtually foolproof. (Any food store.)

Date Bar (same). Very easy to prepare in reflector oven. An excellent dessert. (As above.)

Brownies (same). 20-30 min. with reflector oven and effective fire. Very good. (As above.)

Coconut Macaroons, Plain and Chocolate (same). Easily prepared; don't overbake, should be soft. (As above.)

Devil's Food Cake (same). Good chocolate taste. Cooks easily in reflector oven; tasty even if doesn't come up all the way. (As above.)

Brownies, Devil's Food Cake, Gingerbread, Corn Muffins, Butter Biscuit (Downyflake). Easily prepared; only water need be added. Have consistently given excellent results in camp cookery classes. (5-lb. bags from wholesalers; pack it yourself. Some supermarkets have small boxes.)

Biscuit Mix (H. & B.). Easily prepared; very good. (VII, 12 pkgs. serve 4 each, $2.93.)

Puddin' Cake Mixes: Chocolate, Vanilla, Caramel Pecan (Py-o-My). All make very good desserts. (Most supermarkets.)

Coffee Cake Mix with Yeast (Py-o-My). Add brown sugar or jam as topping. Makes the best reflector-oven coffee cake I have ever had. (As above.)

Blueberry Muffin Mix (Py-o-My). Cake-like texture, tasty berries, very good. (As above.)

Puddings

Orange-Coconut Instant, Banana Creme Instant (Bernard). Very good. (IV, 4, 54c.; X, 4, 43c.; X, 8, 68c.)

Instant Chocolate Pudding (Chuck Wagon). Mixes easily; sets well. Use slightly less water. (I, 2, 16c.)

Chocolate Instant Pudding (Gumpert). Mixes easily. Flavor fair to good. (II, 4, 35c.)

Butterscotch Instant (same). Very good. (II, 4, 29c.)

Miscellaneous

Sweet Cream Butter, canned. Will deteriorate gradually if not under refrigeration; usually O.K. for 7-10 days if properly refrigerated beforehand. (X, 12-oz. can, 95c.)

Canned Fruit Cake (Chuck Wagon). Loaded with fruit; very good dessert. (I, 5-oz. can, 41c.)

Powdered Whole Eggs. (X, 8-oz. friction-top can, $1.10; VIII, same, $1.30.)

SOURCES

These are the chief ones used at Springfield College over the years.

I. Bolton Farm Packing Co., 176 Oak St., Newton 64, Mass. "Chuck Wagon" brand. Also handle most of the IX line.

II. Trail Feeding Specialities, Box 441, Summit, N. J. Handle the Gumpert line of plastic-packaged foods for small quantities. Also have some canned meat items that are good.

III. Holubar, 1215 Grandview Ave., Boulder, Colo.

IV. Goldberg's, 202 Market St., Philadelphia 6, Pa. Handles most of the Bernard line.

V. Gerry Cunningham, Ward, Colo.

VI. Trailwise, 1615 University Ave., Berkeley 3, Calif.

VII. Hilker & Bletsch Co., 614 West Hubbard St., Chicago 10, Ill. Wholesalers, dealing in dozen-lots only.

VIII. Camp & Trail Outfitters, 112 Chambers St., New York 7, N. Y.

IX. California Vegetable Concentrates, Inc., P.O. Box 149, 2067 Clarendon Ave., Huntington Park, Calif. One of the largest vegetable-dehydraters in the country, dealing in quantity-lots only. Many of the above sources offer the C.V.C. line.

X. Recreation Equipment, Inc., 523 Pike St., Seattle 1, Wash. Membership is $1 a year. One of the best sources of specialized trail foods such as the Bernard line, Cramore's Crystals, Dehydrated Foods, and others.

SKYLINE SKETCHES

From time to time we publish under the above heading various short accounts of interesting episodes in the mountains. We hope that our readers will send in suitable contributions.

THE HORSE RACE

To see the recent motion pictures of canoeing (plus other types of boating) down western canyon rivers makes our New England white-water canoeing seem trivial by comparison—the very next thing to millpond paddling. However, our local rivers do have their attractions. I am often reminded of one interesting section on the West Branch of the Penobscot. This section was a three-mile stretch of rapids known as the "Horse Race", which the guidebook said "could be run". Of course, we also had the services of a live guide, but he had never run the West Branch. We also discovered that he couldn't swim a stroke. This was a bit disconcerting, to say the least, but guides who would take on a dozen or so Appalachians were hard to come by; they like to think in terms of one guide to each "sport". Members of the Club are not so easily classified, but by and large they set up their own tents, collect their own browse for bedding and nobody has to tuck them in.

We were camped at the head of the "Horse Race". Our guide was preparing supper when, from the nearby tote-road which ran parallel to the river, I was hailed by Ed Strong, line repairman for the Millinocket Paper Company. By the merest chance I had already had the good fortune to meet him on our first night of camping a few days earlier, before we had put in just below Ripogenus Dam. Ed Strong had then called the males among us to help him get his car out of a roadside depression where he had parked for a few days. We got his car out and I then invited him to stay and have supper with us. This he had to decline, but I could almost see him taking a mental raincheck—just in case. He did tarry long enough for me to question him on what he knew about the river. He said he was a former guide and knew the river well, and he proceeded to give me several very useful bits of information. In particular he cautioned us to carry around a certain spot where a bend in the river and cliffs prevented one from noting disaster ahead with no means of escape.

So here was Ed Strong again, and this time he accepted my invitation for supper. And he brought us very important news. He said that the low water made the rapids below very difficult to run. The rapids were continuous, with many severe drops, and the river roared over and around an endless assortment of rocks. However, while making a repair on the river telephone line he had heard a message to Ripogenus Dam for more water, for a temporary raise of the river-level to such a height as to make running it even more hazardous. The thing for us to do would be to catch the water just as it was rising, when we could avoid the two bad conditions of too little or too much. The gates, so he told us, were to be reset at 3 a.m. and he advised that by 4 a.m. the additional water would just about be arriving at our site; he felt that then would be the ideal time to shove off.

Getting this information was obviously most fortunate. I announced the program for the morning. Our overturned canoes, with their respective supplies and duffle underneath, were already along the shore in our usual running order, the guide first, myself last. We would turn in early, get up at 3.30 a.m., dress, strike our tents and be off. The guide had already used the remaining daylight to walk the shore downstream to study the water.

Next morning there was a heavy fog on the river, but lifting with a hint of daylight to come. Prentice and Marguerite Ford from New Jersey were in the canoe ahead of mine. My partner and I made the usual space allowance and then we were off. Only the Fords in their canoe were visible in the rising mist before us. The rapids were quite gentle for a while and I was just commenting on this, keeping a careful eye on the canoe ahead. And then, just as if the river had opened up and swallowed them, the Fords disappeared from sight. I paddled standing for a while but could see nothing of them. (The stern paddles provided in Maine are extra long to accommodate a standing position, and our canoes were all good stable 18-footers.) Soon we were to know what was what. It was the first big drop that was just ahead of us, and from here on the river did its best to give us a good workout. However, everybody made it. The Fords got caught in a whirlpool but after one complete revolution they cleared themselves. That gave us the clue for skirting the spot successfully.

Below the rapids was a stretch of widewater about a mile long. A logging crew was camped on one side and smoke was belching from the fly of the cook tent. The cook and his helper stared at us and then waved. At the end of the widewater we found ourselves a level plateau on a cliff, ideal for preparing breakfast. Here we were treated to a boat race. Two bateaux set out from the lumber camp, headed across the widewater. These are long pointed river boats used by loggers. While ten or twelve men row, a stern man, standing, steers with a long oar. From our distance it had all the appearance of South Sea Islanders responding to an invitation to distant festivities.

FREDERICK E. MARKUS

REPEAT OF A TUCKERMAN HEADWALL STORY

(A Silver Anniversary Reminiscence)[1]

Twenty-five years ago Miriam O'Brien and I were married, at the end of January. By way of a mountaineering appendix to our wedding trip, which had been spent skiing at Peckett's on Sugar Hill, we joined the Bemis Crew during the third week of February for some winter climbing on snowshoes and crampons.

The Crew, that year, were based at their original locale and name-place, Mrs. Morey's inn at Notchland, formerly Bemis. We were a strong party, in both numbers and morale,[2] so an ascent of Mt. Washington by the Crawford Path seemed to be in the cards. As everybody knows, this is a long pull even in summer, and good weather is wanted for the long stretch above timberline. Our day wasn't too good, even at the start, but we thought we had resources enough to deal with it. It turned out that we did, but we needed all we had.

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[1] See APPALACHIA for June, 1933, 467-9.

As usual, the Crew were in different stages of training and subject to various kinds and degrees of distraction, so that by the time the leaders reached Mt. Monroe the rest of the party were strung out over most of the Southern Peaks. In the winter the east face of Monroe often sweeps down into Oakes Gulf in an unbroken slope of hard snow set at a respectable angle. Crampons are necessary, and even step-cutting may be advisable in places, so that on the whole it is easier to go over the summit and redescend. When Miriam and I, whose weeks of skiing had conditioned us to form the van, reached the summit and looked back, we saw with much disquiet that the squally weather which had been threatening since early morning was now coming in black and heavy from the southwest, and with great rapidity. Visibility was going to close down in a matter of minutes, and it was clearly our job to find and lay a track to the Lakes-of-the-Clouds Hut while we still could. As a matter of fact, the mists came in almost at once. From the foot of Monroe we set a course by map and compass for the hut.

Our actual discovery of the hut was partly a matter of luck. We had gone too low, down into the Ammonoosuc Ravine, and were just passing beneath the hut when the mist lifted for a brief moment and gave us a glimpse of it some distance up on the right, 90 degrees off course. When we had once reached it, we strung out from it as far as we dared and one by one called in the rest of the party, who were laboriously following our crampon tracks.

While we ate lunch in the emergency room of the hut the wind rose to something like a gale and snow fell thickly. In summer all this would have been just a violent thunderstorm, and even in winter it was simply a "local disturbance"—one of those things, however, which frequently finish off climbers on the Matterhorn! We held a council of war. The Bemis Crew was always a thoroughly democratic organization, in which the nominal leader had only the job of making the hotel arrangements, taking the registrations, and doing the rest of the dirty work. So, when some bright spirit got the approval of the majority for his suggestion that our best course would be to make for the summit ("we can't miss it—we just go uphill all the way") and then find our unmistakable way down by the Carriage Road, that was that. We sallied forth.

Within a hundred yards of the hut we were lost. Of course, it isn't just uphill all the way from the Lakes to the summit. There are many minor ups and downs, slopes and counterslopes, each of which becomes exaggerated in heavy mist into something like the cone itself. And the small cairns which then marked the Crawford Path were completely snowed under. We stopped for another council of war, uncomfortable and brief. Miriam and I suggested that, since the wind as we knew was roaring in from the southwest, if we directed our march so as to keep it squarely on our backs, we should be able to cross Bigelow Lawn to the head of Tuckerman Ravine, when we could quickly descend into the lee of the mountain. Everybody agreed, chiefly no doubt because they wanted to get moving again at any cost, and we were deputed to lead off.

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[2] And also in climbing experience, both in the White Mountains in winter and in the Alps. An inquiry once revealed that a majority of the members, for instance, had climbed both Mont Blanc and the Matterhorn.—Ed.

The mist, mixed with snow, was so thick that if anyone dropped as much as ten feet behind the man ahead he lost all contact. It was therefore necessary to hold up the entire front of the line if trouble started anywhere along it. Fortunately, the Bemis Crew were always very well equipped and very competent, so that there were only a few brief halts. Nevertheless, when a line of a dozen persons must keep contact in this way progress is pretty slow, and all the while we were exposed to the force of a very strong and very cold wind, even if it was at our backs. Therefore it didn't really surprise me when, at about three-quarters of the way across the Lawn, one of the girls said, very quietly and evenly, "If we don't get out of this wind within a few minutes, I'm afraid I shan't be able to stand it". This girl was one of our strongest and most capable members; I had climbed with her on A.M.C. trips in the Canadian Rockies and the Alps, and seen her in many difficult situations. I knew that if she said a thing of that sort, she most definitely meant it.

There seemed only one thing to do. From the slope of the ground it was pretty evident that we were now high on Tuckerman Headwall. I had been planning to cross the top of the headwall to the north, turn east along the Lion Head Ridge, and then descend by one of the gullies leading down from that ridge, north of the headwall itself. This route is less steep, and safer from avalanches. But it was now clear that we must at once swing directly down the headwall, in order at least to get shelter from the wind.

When we had descended for a few moments the situation clarified itself. The heavy mist was blowing across the Lawn at a higher level, while we, now below it, could see for a distance down into the bowl of the ravine. Only for a distance, perhaps halfway, however, for the bottom of the bowl was filled with another batch of mist, seething and churning about as if in a giant cauldron. In any case the start of our route was clear, and I began to cut steps in the hard snow on a long downward slant over toward the Lion Head Ridge, in order to reach the easier slope used by the summer trail.

We had gone only a short distance before one of the men near the tail of the line, who was still high up on the steep part of our route, slipped out of his steps. He shot down the slope and quickly disappeared into the mists below. Now, Tuckerman Headwall in February is quite a different proposition from what it is in March, April and May, when skiers move all over it. In February the great quantities of spring snow have not yet blown down into it, to ease the gradient of the slope and cover many of the boulders at its foot. The wall is steeper, the snow harder, and the boulders stand out like a row of pickets, not easily dodged. The chief danger in a slide, in fact, is that you will run into one of these boulders, perhaps headforemost. So, when our man vanished, we all waited in a state of considerable tension. Finally there came up from below, out of the mist, a faint cry which we construed to mean that he was safe.

Next to go was one of the girls. She too was high up, near the tail of the line, and she undertook to provide the comedy element that is never missing, even in the toughest situations. "O.K.", she called out blithely, as she took off and flashed down the slope; "I'm going!" Again we waited anxiously, and again a faint call of reassurance came up from below.

While I was wondering how many more we were slated to lose in this fashion my own turn came and all responsibility was at an end. I had cut steps well over toward the northeast edge of the headwall, and now started to zigzag back again to the southwest, at a lower level. This brought me beneath the members of the party who were still on the upper traverse. Suddenly I heard a disconcerting noise above and looked up to see that one of the men—one of our largest and heaviest men—had slipped out of his steps and was charging directly down upon me, building up momentum as he came. When you are standing sideways in small steps on a steep slope, without a belay of any sort, your resistance to a downward and outward thrust, even if you are wearing crampons, is just about nil, and I had some 200 pounds bearing down upon me from a start of about 40 feet above. I knew there was just nothing whatever I could do about it, and during the second or so before I was hit and hurled out of my stance I remember that I simply watched the oncoming juggernaut in a state of sheer fascination.

He caught me, as neatly as you please, between his legs and we whirled off together in a complicated figure of arms, legs and ice-axes. But the next moment we were sorted out again. For we went directly over a little ice-cliff that lay beneath us, some twenty feet down the slope. Later, from below, I got a good look at this cliff and should say that it wasn't more than ten to twelve feet high, but we seemed to be in the air an unconscionably long time. We probably landed, like a ski-jumper, some distance below the actual foot of the cliff, on the continuing steep slope. Anyhow, neither of us was injured by the leap, which on the contrary did us the good turn of flinging us apart and depriving us of our ice-axes, by which we might well have messed each other up. But I for one got such eyefuls of snow from the landing that I could see nothing whatever and for some moments was even unsure which end of me was up. I knew only that I was moving somehow at very high speed, and this went on for what seemed to be ages.

I was thinking, of course, about those rocks at the bottom. How near were they? Was I going to hit them feet first or head first? Surely I must be just about at them by now! Meanwhile, more by luck than anything else, I managed to get round into a sitting position, which was all to the good. Then it came over me that the pace was not quite so fast; the slope must be flattening out. Very belatedly my mind, which was functioning at moronic level, brought up the brilliant idea that if I tried digging in my heels and elbows I might just possibly slow up a bit, or even stop! So I did this, and it worked! When I had dug the snow out of my eyes I saw that I had come to rest nearly a hundred feet from the rocks. My team-mate had now stopped as well, but close in front of them; guarding him, however, were the two members of the Crew who had preceded us down the slope.

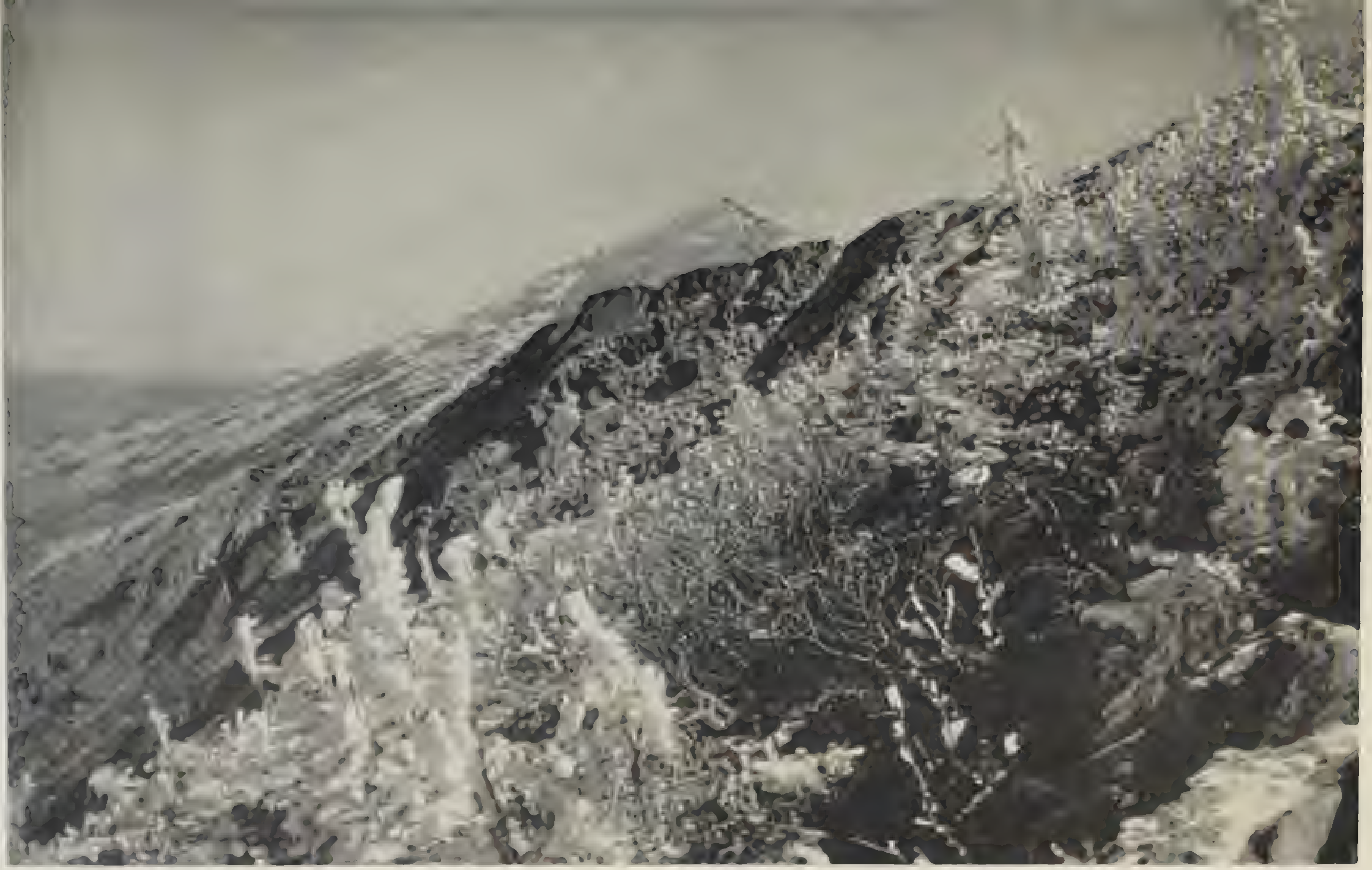
The scene now shifts back to the party still on the headwall.

At this juncture it was up to Miriam, who had been second in the line, to take over. She has always assured me that she really was quite upset to see her mate of less than a month vanish thus abruptly into the jaws of death, and I like to believe that this was indeed so, and that the sangfroid which she now proceeded to exhibit was ascribable solely to her competence as a mountaineer. Be that as it may, the measures which she took were faultless. First she made certain that what had happened to me should not be repeated by directing everyone on the upper traverse to remain perfectly still while the others were still below. She then completed the cutting of my line of steps, on a long downward slant, to a small snowy shoulder below which the slope was much more gentle. I climbed up from below to where I could see this point and make sure that the course from it down to the foot of the headwall was clear and manageable, whereupon Miriam did an alpine glissade, standing up and braking with the ice-axe, down to where we were. One by one the other members of the party then followed the steps to the shoulder and attempted the same thing. But glissading on steep slopes, especially when one is wearing crampons, is something that requires a bit of practice, and no one else managed to stay upright for anything like the whole course. Down they came in every variety of posture, out of control and spilling ice-axes, snowshoes and packs on the way. But those of us who were already down had posted ourselves in front of the boulders and tackled every sliding, rolling and tumbling body before it could hit a rock. Each newcomer then added himself to the protective cordon, so that very soon everything was under control and all anxiety over. The glissaders then found themselves performing for a gallery that loudly cheered their better contortions. One man, I remember, on being brought up lying face down, at once began digging frantically into the snow with his hands, evidently under the impression that he was on his back, buried under an avalanche, and that this was the way up and out.

As for the slope above, from which the mist had now cleared, it looked like a battleground strewn with the debris of war. All, I think, had lost their snowshoes (which had been carried strapped to the outside of their packs); almost all had lost their ice-axes; and some had even lost their packs. All this equipment lay scattered over the headwall. Two or three of us climbed up to salvage it, and we got every bit except my ice-axe, which had been lost much higher up and came to light only late in the spring. With the melting of the snow Charlie Linscott found it and brought it down to Joe Dodge at Pinkham Notch.

The storm was over. With everyone in high spirits due to the excitement, the Crew padded cheerily down to Pinkham Notch, where eventually Charlie Morey picked us up in his truck for the return to Notchland. It might have been just the end of an ordinary successful snowshoe trip. But since then I've never warmed to the idea of fast slides down steep snow slopes toward uncertain destinations.

Robert L. M. Underhill



Roger H. Damon, Jr.

MOUNT MADISON AND THE KNIFE-EDGE

From the Great Gully Trail, King Ravine

Emil Rueb

NATHANIEL L. GOODRICH

IN MEMORIAM

Nathaniel L. Goodrich, 1880-1957. I first met Nat Goodrich on a hot afternoon in July, 1897, riding on the stage into Waterville. I was an absolute greenhorn in the mountains, while to me he even then seemed a seasoned veteran, for he had spent his summers there since babyhood. For the next twenty years our summer vacations in Waterville brought us together almost every year, and from him I learned much of my woodcraft.

He served the Club in many ways. The official records show him as having held the office of Councillor of Trails and assignments on the Guide Book Committee, Nomenclature Committee, Committee on Trails, and Committee of Trail, Hut and Camp Extensions. But this record tells only a part of what he did.

In 1944, when I was elected Councillor of Trails, I naturally turned to Nat for advice and help. In our first enterprise we worked on the location and clearing of the Webster Cliff Trail. After scrambling up and down the ledges several times it was he who determined that the route where the ladder now is was the only practical location for a trail through those ledges. We knew Nat and accepted his judgment. Again, on the Garfield Ridge Trail, he repeatedly crawled through a particularly dense section of scrub to find the most satisfactory location. I doubt if any of the rest of us would have done it. When I was succeeded as Councillor by Paul Jenks and he in turn by Nat, for more than twenty years almost every summer found the three of us working together on some new trail, while in the winter we discussed trail problems. His name is thus to be forever associated with the planning and development of the modern A.M.C. trail system.

During the years I was Councillor of Topography, Nat was my companion on most of the expeditions I made for mapping in the northern part of New Hampshire. On these trips his knowledge of the mountains was of particular value, for he would recognize distant peaks and could distinguish obscure ridges. His ability to read and evaluate maps was recognized during the first World War when, as a captain of Military Intelligence with the General Staff in Washington, he had charge of certain map collections. This same interest led to the creation of a particularly valuable map collection in the Dartmouth College Library.

Nat took up skiing at an age when most people would never expect to pass beyond the stage of novice, and became so proficient that he took trips to the Canadian Rockies and to Europe for skiing. One of his Hanover neighbors writes: "To some he left the last telemarks seen in these parts—linked S's carved in deep powder, where more modern skiers floundered over their buried stems and split christies and wondered what ancient Norwegian magic this slim man of seventy possessed."

After graduating from Amherst College in 1901 he acquired his professional education as a librarian at the State Library School in Albany, from which he received a degree of Bachelor of Library Science in 1904. His ability was later recognized by Amherst College, which gave him a degree of Doctor of Letters in 1941.

His training at the Library School was followed by a few years of service in the New York State Library, after which he went as librarian successively to the University of West Virginia, the University of Texas and finally in 1912 to Dartmouth College, where he remained until his retirement a few years ago. His work in the planning and development of the present Baker Library at Dartmouth was the great and permanent contribution which he made in the educational world.

His skill as a writer is shown in a book, *The Waterville Valley,* which expresses his lifetime familiarity with a beloved spot, and in all-too-infrequent articles in APPALACHIA, such as "The Attractions and Rewards of Trail Making" (XIV, 246). His guidebook descriptions are models of clearness and brevity. He was not a talkative person, but it was not because he lacked ideas. He could always talk about matters of nature, birds, flowers, trees, places of beauty—things that he loved.

Those of us who knew Nat well, enjoyed his company. Friendships acquired by association in tramping and camping endure, regardless of separation. I particularly cherish a short lunch-hour which I had with him last December, before either of us was aware of the fatal illness which soon overtook him. We talked of the mountains, the forests and their trails, of friends who had worked with us, and of things that we had done together during the many years of our friendship. On that note I take my leave of him.

CHARLES W. BLOOD

VARIOUS NOTES

Members and friends of the Club are urged to contribute items and pictures along the lines of Club interests suitable for inclusion under this heading. Material for the December issue should be received not later than September 15. All copy should be typewritten, double-spaced.

ALPINA

In the Andes, several of the expeditions mentioned in our last issue accomplished additional climbs following those previously recorded.

The German expedition from Stuttgart, under the leadership of Günter Hauser, after its successes in the Cordillera Blanca of Peru, moved to the Cordillera de Vilcanota where they made five first ascents—Jatunhuma, Cayangate I, Caracol, Kakakiru, Mariposa—all from 19,000-20,000 feet. The expedition was joined by an American, Theodore Achilles, a Yale student and son of the American ambassador to Peru, who made the climbs of Jatunhuma and Caracol.

Another German group from Berchtesgaden climbed in the Cordillera Apolobamba of Bolivia, where they made first ascents of nine peaks—Punta Lisa, Cerro Mita, Iscacuchu, Huelacalloc, Cerro Posnansky, Cololo, Chaupi Orco, Cerro Nubi, Huanacuni—all but one over 18,000 feet and one nearly 20,000.

The Austrian party, after their climb of Jirishhanca in the Cordillera de Huayhuash, visited the Cordillera Raura where they climbed thirteen peaks over 16,000 feet, including Narupah (19,000 ft.), the highest summit.

Several expeditions are planned or already under way for the Himalaya. The first members of a Swiss expedition aimed at Dhaulagiri left in January, intending to go the whole distance to Nepal by jeep.

The French Alpine Club is planning an expedition to Janu (25,294 ft.) on the Sikkim-Nepal border, following a reconnaissance made last fall. The advance party found only a single promising route, which appeared extremely dangerous. Seven British officers hope to explore the Hispar Glacier area in the Karakoram and attempt the ascent of Disdeghil Sar (25,868 ft.).

An American expedition is planned to Hidden Peak (26,470 ft.) at the head of the Baltoro Glacier in the Karakoram, under the auspices of the American Alpine Club. Nicholas B. Clinch is in charge of the organization. Other members of the party will be Richard K. Irvin, Andrew J. Kauffman II, Thomas McCormack, Thomas O. Nevison, Jr., Gilbert J. Roberts, Jr., Peter K. Schoening, and Robert L. Swift.

The Antarctic has been the scene of great activity during the last few months when summer weather made many of the planned trips possible. Probably the most notable was the first crossing of the Antarctic continent by the British party under the leadership of Dr. Vivian Fuchs from the Shackleton Base near the Filchner Ice Shelf to McMurdo Sound. This 2100-mile trek assisted by the bases established by the New Zealand party under Sir Edmund Hillary marked a milestone in Antarctic exploration. The seismic observations made by his party and other parties on the continent will give us a much better picture of the underlying rock base. Already it appears that parts of the coast are islands overlaid by ice. But the South Pole itself is now known to be on land although the base rock is only some 900 feet above sea-level despite the fact that the Pole itself is some 9,000 feet. The Russians claim that part of the continent is volcanic in origin. An ice-free valley some 300 miles from the Pole promises to repay further study.

Kenneth A. Henderson

Wind River Climbing Notes. The first ascent of Block Tower (ca. 12,000 ft.) was made on July 12, 1957, by Robert Chambers and Arthur Gran. From a camp at Shadow Lake we climbed to the col between Overhanging Tower and Shark's Nose; then descended and traversed the east face of Shark's Nose, on snow, to the Block Tower face.

The route began by following the prominent chimney on the south side of the east face, then traversed to the north col and onto the north ridge. The last 40 feet were made by means of a narrow chimney. Two pitons were used for protection. Descent was by the west face (not recommended). Three rappels were made: the first, 125 feet; the second, 110 feet, free, to a flake; the third, 60 feet, to the couloir.

A new descent of Shark's Nose by the north face required four 110-foot rappels and a short climb down to the col. The party included John and Mia McLeod, and Paul Calcaterra. We also climbed Overhanging Tower and Wolf's Head.

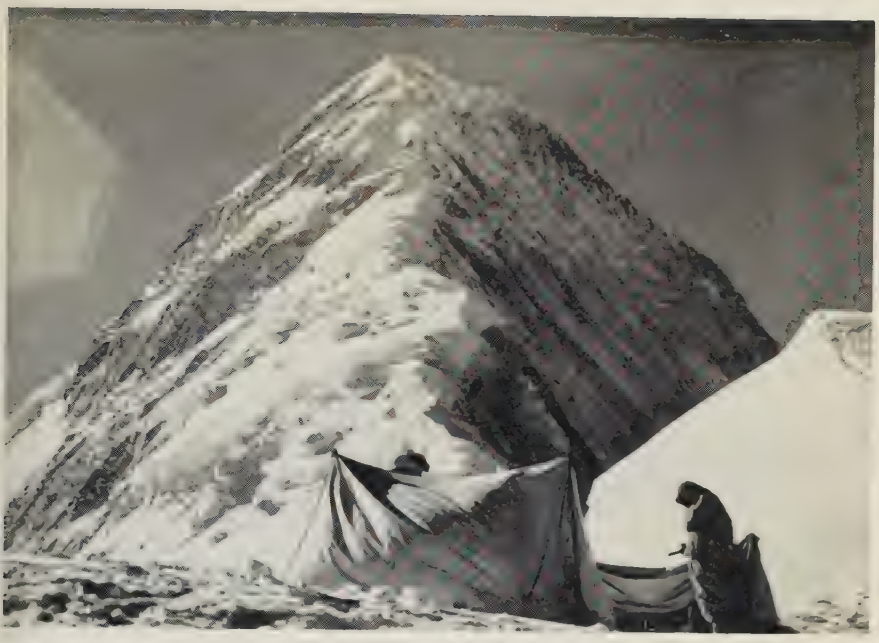
(See Appalachia for June, 1956, 36-40, with photo.)

Arthur Gran

A British party under Sir John Hunt, leader of the successful Everest expedition of 1953, are to go to the Caucasus in July for five weeks' climbing. This will be the first party of any importance from the West to visit the Caucasus in twenty years. There will be an opportunity to climb with the Russians and observe the technique they use. Plans include an attempt to climb Ushba (15,410 ft.).

On October 6, 1957, a British woman climber, Mrs. Joyce Dunsheath, 54 years old, climbed Mt. Elbruz (18,460 ft.), the highest peak of the Caucasus, with two Russian guides. She was the first foreigner to do so since before the war, and had received a special invitation from the Soviet Deputy Minister of Electric Power Stations, who had been in professional contact with her husband.

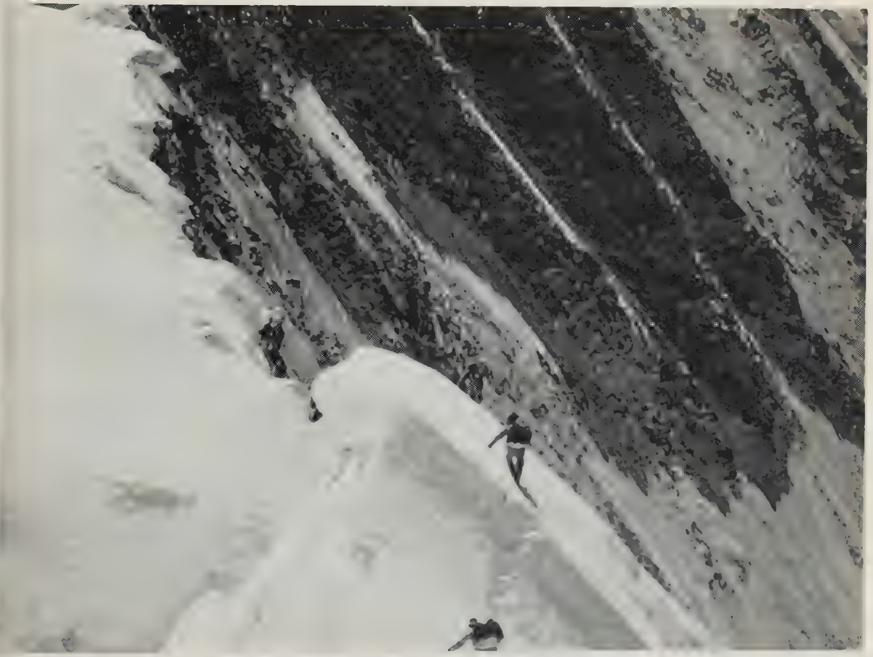
Russian Mountaineering. In a recent public address the well-known Soviet mountaineer, Vitaliy Abalakov, engineer, spoke of his first ascents in the Pamirs and of the status of Soviet mountaineering in general. In the course of his talk he said that the tale of a first ascent of Mt. Everest by Russian climbers had been made up out of whole cloth. Russian mountaineering is still very young and has limited itself in recent decades to the conquest of the highest peaks of the Caucasus and the Pamirs. Only after almost all these summits have been attained will attacks be commenced on the 8000-meter peaks of the Himalaya. The conquest of the high peaks of the Pamirs and the Tien Shan has already cost lives among the Russian climbers; on one occasion the entire expedition perished,



China Features

THE SUMMIT RIDGE OF MINYA KONKA

From Camp V on the Hump



China Features

CLIMBING ALONG THE CORNICED RIDGE

China Features

ON THE SUMMIT OF MINYA KONKA

China Features

THE MONASTERY OF KONKA GOMPA

save for one man. Engineer Abalakov himself has lost some fingers and toes from freezing and amputation, but is still an active climber. He said that in recent years Chinese and especially Tibetan mountaineers had made great progress. Because of the great endurance and excellent training of the latter, successful first ascents may be expected of them in the near future.

Der Bergsteiger, February, 1958

Second Ascent of Minya Konka. It is reported that this peak of 24,891 feet in southwestern China was climbed in June, 1957, by a Chinese expedition sponsored by the All-China Federation of Trade Unions. (The first ascent was made in October, 1932, by a small American party of four, two of whom—Terris Moore and Richard L. Burdsall—reached the summit on the 28th. The story of their climb is given in absorbing detail in the book *Men Against the Clouds,* by Burdsall and Emmons.)

The Chinese expedition,[1] consisting of twenty-nine men, came by truck from Tatsienlu to Yinkwanchai over a recently completed road, and thence by the use of sixty horses and forty yaks to the Konka Gompa lamasery at the foot of the mountain. At this base, where they arrived on May 14, twelve men remained (doctors, radio operators, cooks), while the other seventeen attacked the mountain. A reconnaissance party of the preceding year had reported that while the south and east faces consisted of cliffs, "the long northwest ridge . . . seemed negotiable". (It had already been climbed by the Americans!) The route now followed was clearly that of the first ascent (although this fact is not mentioned), with only minor variations. During the remainder of May four camps were established, the fourth on the spur at 20,300 feet, between the American Camps II and III. In the course of these operations one group of thirteen was overwhelmed by an avalanche, but all save one man were dug out alive.

On June 4 seventeen men left the base for the final assault. Between Camps II and III four men slipped, fell down a slope, and lost their equipment, necessitating their return to base. Of the thirteen who reached Camp IV, several suffered from nosebleed and nausea, due to insufficient acclimitization, so that, with others detached to care for these, only six could continue. These six reached "the Hump" (see *Men Against the Clouds*) and there set up Camp V; on the next day (June 11) they roped down its steep farther side into the gap beyond. The ropes available were insufficient for the 100-meter descent, and in climbing down the 20 meters which remained one man slipped but was luckily stopped by a crevasse. This rappel required three hours.

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[1] A first account in English of this expedition was printed in the October, 1957, number of *People's China,* a magazine published in Peking for distribution in the English-speaking countries. In this a clumsy attempt was made to cast doubt upon the American first ascent. A second account by the same author, Shih Chan-chun, was later sent out in typescript by China Features, a publicity agency, to mountaineering journals in various countries, in their respective languages. (The German version was published, without comment, in the February number of *Der Bergsteiger,* the semi-official publication of the German Alpine Club.) In this second account the prior American ascent is fully recognized and the book *Men Against the Clouds* mentioned with commendation. We strongly suspect that the first account was much tampered with by some propaganda official, and not one of the smartest, since besides attacking the American claim in the crudest possible way it suppresses all mention of the accidents to the Chinese party and exaggerates several of the incidents (while the translation into English was clearly done by someone unfamiliar with the technical terms of mountaineering). In any event, the differences between the two accounts are very striking. What here follows is a summary of the second, without of course accepting any responsibility for its accuracy.

Camp VI was established on the main ridge at 21,655 feet, and Camp VII the next day, in a snowstorm, 100 meters higher (and evidently at about the site of the American Camp IV, at 22,000 feet). The party were now very short of food. They left at 3 a.m. the following day (June 13) after a breakfast consisting only of one piece of candy and some scraps of ginseng apiece, without liquid. The summit was reached at 1.30.

"We set up the Chinese flag on the summit and signed a declaration giving the details and date of our ascent. This we placed in the metal container we had brought and buried it under the cairn. With our ice-axe we cut a piece of granite from the cone of the summit as a memento."[2]

At 2.15 they started down. "We had gone just a short way when a great snowstorm burst, with heavy thunder and lightning. We stopped for a time but, as it showed no signs of ending, we set out again at 6 p.m. But in the heavy mist we could not find our last two iron pitons which we had, as a precaution, put on one side. Now we came to an icy slope as smooth and hard as glass, on which our crampons and ice-axes proved useless. Driven by the high-velocity wind, we had the greatest difficulty to keep our balance on the ice. Liu Ta-yi went first but slipped, and I and Liu Lian-man followed him down. Fortunately, near the foot of the slope I hit a large stone, which I embraced and held onto with all my strength. This stopped our fall down an abyss at the bottom of which we estimated to be the Lesser Gongkar Glacier (south). But our second group of three, led by Peng Chung-mu, were not so fortunate. They, too, slipped in negotiating this terrible slope and they failed to grasp at anything that could break their fall. We saw them hurtle into space.

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[2] Terris Moore informs us that the summit of Minya Konka, like that of practically all peaks over 25,000 feet, consists of a small summit glacier shaped like the roof of a house and many feet thick. The nearest rocks are 1000 feet below (in vertical distance), and these are large ones, completely frozen in. Conditions may of course have changed, but an enormous change would have been necessary, and the photos taken by the Chinese party do not suggest any smaller amount of snow. Whence came this "cairn"? Nothing is said of its construction. If it was already there, who built it? But if, in their stay of only three-quarters of an hour on the summit, the party were able, at that altitude, not only to take photos and do some writing (without gloves?), but also to obtain rocks and build a cairn, then this is the world's highest and altogether most remarkable cairn, the construction of which would make a feature story in itself!

However, Terris Moore adds, some of the photos taken by the party show that they were definitely beyond "the Hump", and he thinks it quite possible, and indeed probable, that they reached the summit.

The conclusion seems evident that some official re-write man has put his finger into this account as well as into the earlier one. To build a cairn, deposit in it a metal container with a record of the ascent, and perhaps bring back as souvenir a piece of the topmost rock, are all familiar procedures on first ascents of mountains of moderate altitude, and well known as such to the general public. Mention of them has been inserted here on the theory that it will induce conviction that the summit actually was attained. Unfortunately, it is precisely these incongruous additions which, in mountaineering circles, will cast suspicion upon the validity of the claim.

"With heavy hearts, we dug a cave in a gaping fissure by the side of the ridge. It was a miserable night the three of us passed, huddled together as the snowstorm raged outside."

They reached the base camp on July 16 and at once a party went out to search the Lesser Gongkar Glacier, but no sign of the lost three men could be found.

WINTER CLIMBING

Snow and Storm on the Crawford Path. Sitting comfortably in a double-layer Himalayan tent pitched on the cone of Mt. Washington in February, 1957, three of us pondered the idea of a winter traverse of the Presidentials. The plan came to partial fruition a year later, as eight Harvard students took advantage of the mid-semester break to start out on the climb.

The day after our last exams Bob Page, Rob Coe, George Millikan and I left Cambridge for the freer air of Crawford Notch. There, shortly after noon on January 30, 1958, we met the first group, consisting of Mike Wortis, Gordon Benner, Lenny Clarke and Dick Wylie. They had planned to come to Crawford via a traverse from Franconia Notch, but had found that the deep snow made progress difficult; consequently they retreated after climbing Lafayette. The eight of us set out on the Crawford Path at three, but by dark we were still well below timberline; in the unusual depth of snow it was hard to make even one mile an hour. We stamped out a spot in the middle of the trail where we pitched our two four-man tents. We spent a comfortable night, despite the puncturing of an air mattress by a misplaced ski pole. The next day began as the previous one had ended: in snow and thick clouds. We had finally located what we think was the top of Mt. Clinton when the wind forced us to set up an early camp off the ridge. During the night the gale packed the snow around the tents.

Next morning the clouds parted a little, affording a brief glimpse of Mt. Washington. Soon the storm returned, and the wind picked up; we had a hard time making our way around Mt. Monroe to the Lakes of the Clouds. The hut itself is closed in winter, but a small annex is left unlocked, into which we piled, grateful to get out of the cold wind. Our stoves soon melted the ceiling frost, but they could do nothing for the six inches of ice on the floor. By a great deal of geometric ingenuity we managed to devise sleeping arrangements for eight without resorting to the litter which hung from the ceiling.

The next day we found to our dismay that the visibility had worsened, the cold intensified, and the wind grown stronger. We could hardly stand in the gale, much less walk in it. So we stayed inside all day, amusing ourselves by counting our food stores and wondering if Harvard would fine us for late registration. The top of Mt. Washington was little more than a mile away, but it seemed unsafe to venture out; a small mishap, such as a sprained ankle, would have been disastrous. We had enough food and fuel, so we spent another night at the Lakes.

Conditions were still bad the morning of February 3rd, but they had improved sufficiently to let us start out. We headed for the summit, feeling that this was the safest way to find the route down the other side. On the top, which we reached in an hour and a half, we learned that the temperature was zero and the maximum wind velocity 60 miles per hour, a substantial decrease from the previous day. Soon we started down the unplowed carriage road, which we promptly lost in the fog. Fortunately the clouds broke, revealing that we were about to plunge into the Great Gulf and probably another night out! We reversed direction and followed the road to Pinkham Notch, where we arrived late in the afternoon, more aware than ever of the fierceness of White Mountain weather.

STEVEN JERVIS

February Camping Trip. On the weekend of February 1-2 the first A.M.C. mountain-leadership trip attempted to climb one of the northern peaks of the Presidential Range. Although we failed to reach our goal, we count the trip a success in teaching us much about winter traveling and climbing during a period of unusually rigorous conditions in the mountains.

The trip was for those inexperienced in winter climbing, but who had a background of summer climbing experience plus full winter-climbing equipment. Our goal was Mt. Adams via Crag Camp by the direct route—with no frills like King Ravine. Besides the leader, there were two men from M.I.T., a Harvard graduate student and a student from Noble and Greenough School. The M.I.T. climbers went up Friday evening and camped in Randolph. They planned to start breaking trail early in the morning. But the other three of us, who could not have left Boston Friday until about 8 p.m. and would consequently have had to make camp after midnight, felt it was better to get a good night's sleep at home the night before the climb. We started north at 5 a.m. Saturday morning.

At Pinkham Notch I checked in with George Hamilton, who told me of the extremely heavy snow accumulation above 2000 feet; I was amazed that there should be as much snow as that so early in the season. At Randolph we reported to Jack Boothman that we were starting up to Crag Camp, and began the climb shortly before 10 a.m. The weather on Saturday was clear and moderately cold. A large coastal storm had just brushed Boston the night before, but the temperatures up north were no lower than 15°-20°, depending upon elevation. The summits were of course colder, but still not intolerably cold or windy.

The M.I.T. climbers had neatly tramped out a trail, but no sooner had we hit the woods than we began to see our difficulties. Our beaver-tail snowshoes were excellent for breaking trail, but for crossing log bridges covered with four feet of snow all snowshoes are far from admirable. The bridge took us fifteen minutes but after that, along the Amphibrach, we moved well.

At about the 2800-foot level, however, our troubles multiplied fast. One of the M.I.T. climbers broke a snowshoe binding irreparably; they had to turn back. At this point the snow was so deep and the trees so bent over with the weight of snow on them that trail-finding was our major difficulty. It was not late—between 12 and 1. After trudging on for an hour, with a stop for lunch, we met our impasse. After crossing a brook at roughly 3000 feet the trail begins to climb moderately. Although the grade here is nothing like the steep climb on the final pitch up to Crag Camp, it was impossible to negotiate even this. The powder snow offered no footing for snowshoes and no leverage for our ski poles. Furthermore, at this point the trail was indiscernible. The snow depth must have been at least 8 feet (Wildcat was officially reporting 85-105 inches).

We spent two hours in trying to negotiate that slope and in sending men out in widening circles to find the trail. Finally, at 4 p.m., the decision was made to camp, back at the brook where there was some water that had not frozen over. With our axe, stove, cooking gear, food, ponchos and so on we were well supplied. But had we counted too heavily on reaching Crag Camp, we perhaps might not have had so much equipment and our forced encampment would have been far more uncomfortable.

We learned a lot that night about camping in the woods. It was a most successful experience, even though we never did get up the mountain. The bivouac taught us much about cooking, on 6 to 8 feet of snow, over an open fire (two needles for the primus broke, the second one inside the snout), about proper utilization of firewood, and many other fundamental points. First and foremost, though, we learned how wise it was on a winter climb to bring just that little bit more. You may never need it, but if you do and haven't got it, your situation might be more than just embarrassing. But the main thing we learned was Sense First; Never-Say-Die last.

William W. Biddle

The fifth annual Adirondack winter-mountaineering school was held the last weekend in December at Adirondack Loj near Lake Placid, N. Y. This was the most successful meeting yet, with some 75 registrants. During the four-day period one could choose between ice climbing or full-day ascents of 4000-foot peaks. Since this past December was very poor for ice climbing, most people attended the winter climbing sections of the program. Even though the weather never became rigorous, some of the big climbs, such as Marcy and Algonquin (the two 5000-foot peaks in the Adirondacks—and Marcy a 14-mile round trip), were far from easy. Snowshoes were never needed; this side of winter climbing had to be left untouched.

Ice conditions were so poor, in fact, that it was not felt worthwhile for Fritz Wiessner, who was to have taught ice climbing, to make the trip over. The ice climbers were able, however, to receive instruction on rescue operations from representatives of the Mountain Rescue Council from Seattle, and to conduct a full-scale practice rescue.

The aim of the school is twofold. First is familiarization with winter conditions in the high peaks of the Adirondacks and safe winter climbing practices; second is leadership training for the more advanced climbers who might become qualified winter leaders. The club has an interesting arrangement: certain requirements must be met before one becomes an accredited leader. (Some of these details and other information about the school will be found in the *Winter Mountaineering Manual,* which is reviewed at the end of the Book Review section.)

A number of points which the school stressed could be applied as well to climbing in the White Mountains, e.g.: carrying a thermos bottle with hot tea for an emergency; avoidance of circular climbs; turning back at a certain *time* rather than at a certain objective.

A few noteworthy events happened during the school—in particular, a first winter ascent of Rocky Peak Ridge from the highway, made by Kim Hart and a strong group of climbers on the last day.

Such a school might be developed in the White Mountains. It is obvious that as these mountains become more easily accessible and as interest in winter climbing increases, it will become more important to teach the special problems of high-country winter travel.

William W. Biddle

CLIMBING IN GENERAL

The Mahoosuc Trail in a Day. Thirty-one years have now passed since Phil Maker and I stretched our legs along the Mahoosuc Trail and thereby established a record that for all we know still stands.

The year 1927 was the third summer that Phil Maker, later to serve three years as Councillor of Trails, had worked on the A.M.C. trail crew. Highlight of its annual job list was the maintenance of the Mahoosuc Trail opened by the Club in 1918-1924 and then enjoying its early popularity as a wilderness route through relatively remote country.

Favorite topic of the trail-blazers in their campfire discussions was whether the entire route, liberally supplied with shelters to encourage doing the rough trail in five comfortable days, could be covered in a single day from its northern terminus in Grafton Notch to the B. & M. bridge near Gorham, a distance of 28.75 miles for which the *White Mountain Guide* allowed an elapsed time of twenty-five hours. The distance was not especially long for an all-day hike but the route was constantly either up or down and the footway at that time was still exceedingly rough.

Phil decided it was worth a try and enlisted my company as a fellow pace-maker. It was my fourth summer in the White Mountains, so following an A.M.C. trail was no novelty. In fact, it was a welcome challenge, with no back-pack to hamper full speed. We shook hands on the motion and set mid-August for our busman's holiday.

The afternoon of August 15, 1927, found us hitch-hiking the fifty miles from Gorham to Grafton Notch, where we spent the night with a Brown Company timber-cruising party camped near the height of land. They were up early the next morning and so were we.

The first leg of our trip led straight up Old Speck, third highest peak in Maine. It took only fifty minutes to climb the 2700 feet by the 1.5-mile route to the fire-tower. By then our breakfast had fully settled and we were limbered up for the seemingly endless and constantly up-or-down trek across the high points of the entire range to Gorham.

Fortunately for our specific purpose, the weather was cool, cloudy and rainy. There was no incentive to pause to enjoy the remarkable views frequently available in clear weather from the Mahoosucs. We can recall no special incidents along the way. We met no one and paused only for an occasional drink. We had taken a rather dim view of those who climb mountains against time instead of enjoying the outing with frequent stops. Now we found ourselves partners in the very activity we had condemned—and decided to make the most of it.

The goal at the bridge was reached exactly ten hours and twenty-seven minutes after we left Route 26 in Grafton Notch.

The next noon, from atop Mt. Madison, we viewed the backtrail in better weather. Old Speck looked a long way off, as indeed it was. We had proved that the Mahoosucs could be covered in a single day and had made one of those records, reassuring to hold, that will probably remain unchallenged, if for no other reason than because improvements have subsequently been made to the trail and future records will hardly be comparable to our 1927 stroll over the Mahoosucs.

Robert S. Monahan

Switzerland, June 21-August 4, 1957. "Out and Up!" It might have been our slogan, for it was our wish. Yes, we were interested in history, people, customs and the shops, but all this was secondary to our primary object in Switzerland, to be out-of-doors, walking over the ridges, by the upland streams and lakes, enjoying the snowy peaks in the landscape and the flowers close by. We numbered five: Hester Huggins, Cambridge; Ruth Page, Dedham; Harriet Roe and Olive Tolman, Worcester; Amy Warner, Hartford. All were A.M.C. members, all August Campers of several seasons, all in the vicinity of seventy years of age.

We may disapprove of chair lifts and railroads among United States mountains but, in Switzerland, our favorite time-and-energy-savers were lifts of all kinds, which got us UP. Then we rambled to our hearts' content. From the highlands of Arosa and Klosters to the ancient valley and hill towns near Tarasp, from the cold, raw Montana to the sunshiny Zermatt (we had six days there of nearly perfect weather), on to Kandersteg, Mürren, Wengen, we found our upland walks and our flowers. All we did was to inquire of our landlord and/or consult our guidebooks.

What do we best remember? Maybe it is a day spent on the trail just above Zermatt, not walking, just sitting by the wayside, watching clouds shift and drift over the glaciers and snowfields. Maybe it is the miraculous alpine glow on the Jungfrau, seen from Wengen after a day in the open air, or the constantly changing light on the Matterhorn as clouds conceal, reveal the peak against a blue, blue sky. Maybe——

Then there were the flowers: kitteny-soft, pink-backed anemones, blooming from just under the snow; clumps of deep-blue star gentians; the golden glow from fields of double buttercups; one slope over which we rambled for five minutes or more, hunting for a picnic place where we shouldn't have to sit on the violas.

Ours was not a regulation tour, but our itinerary was planned by a travel agent who, knowing what we wished, inquired of Swiss authorities before making recommendations. No, we did no rope-work, we glissaded down no icefields; our feet kept comfortably on the solid earth, our hands hung relaxed at our sides, and our eyes roamed over the Weisshorn and Monte Rosa and the Breithorn with undiverted appreciation of their loveliness. If we varied our journey with a few bus trips over passes, a few stormy days for letter-writing or shopping and, of course, hours of just getting from one place to another, we still have as our choicest memories of those six weeks of Switzerland summer, the emotions, only intensified, that any Appalachian associates with being Out and Up among mountains.

Harriet E. Roe

The Adirondack Forty-Sixers. In 1924 three men climbed every Adirondack mountain in the 4000-foot category. Gradually, thereafter, those summits came to be designated "the forty-six". The men were Robert and George Marshall and their friend and guide, Herbert Clark. When they completed the climbs only fourteen of the forty-six had trails. Eight of the mountains had never been climbed.

Today, twenty of the summits are still without trails. The majority are heavily wooded. Since the blowdown in 1950 the remote peaks are even more inaccessible. However, by the end of 1957, 136 climbers had ascended all forty-six and forty-nine are nearing the goal.

What classifies a mountain as one of the forty-six dates back to rules made by the first three climbers. A mountain must be 4000 feet or over in elevation; in a range of peaks there must be either a drop of 300 feet between peaks, or a distance of at least three-fourths of a mile from the next forty-sixer, for a peak to rank as a separate one. In 1928 the forty-six were given widespread publicity by Russell M. L. Carson in his book *Peaks and People of the Adirondacks.* His listing has been accepted as official by subsequent climbers, regardless of any changes in elevation due to later-day surveys.

The scaling of all the forty-six gave a tremendous boost to climbing in the Adirondacks. In 1937 a club known as the Forty-Sixers was formed in Troy, New York. This was the forerunner of the organization now known as the Adirondack Forty-Sixers.

To maintain accurate records the Forty-Sixers send a questionnaire to each person completing the forty-six. This includes such items as a short biography of the climber; the first 4000-footer climbed and date; the forty-sixth climbed, date, and hour the summit was reached; others with him; what interested the person in climbing; view ratings; unusual incidents or natural phenomena encountered; and peaks climbed in winter. After the questionnaire is found in order the climber is recorded as a Forty-Sixer. He is informed of his position (number) on the list and his application becomes a part of the Adirondack Forty-Sixers' permanent records.

Climbers are strictly on the honor system. Aspiring Forty-Sixers (those who have climbed thirty or more of the forty-six) are listed in *The Ad-i-ron-dac,* bimonthly publication of the Adirondack Mountain Club, with other aspirants. Their progress is reported, if not by themselves, then by friends or others who find their names in the registers on trailless peaks. Permanent registers have been installed on eleven of these. The log book in the register requests the climber to write the Forty-Sixers concerning his ascent of that peak, and to send the names of the three previous climbers in the log.

A new Forty-Sixer is encouraged to become an active member of the organization by paying annual dues of one dollar. This entitles him to purchase the badge or emblem at a reduced rate. The small fee is used for notices and reports which are mailed to members and aspirants concerning semi-annual get-togethers in the mountains. While the organization is not a part of the Adirondack Mountain Club, the majority of its members are also ADKers. The program of the group is flexible and informal. Exploration trips are scheduled during the year. With the sanction of the New York State Conservation Department, the Forty-Sixers are marking the summits of untrailed mountains whose highest point has heretofore often been debatable.

For ten years it has been the dream of the group to publish a printed roster when the membership reached one hundred. That dream has come true as this is being written. [See Book Reviews.—Ed.]

Grace L. Hudowalski

Four-Thousand-Footer Club of the White Mountains. On April 26, 1958, twenty-two mountain climbers (one posthumously) of the A.M.C. were awarded the coveted shoulder patch of the 4,000-Footer Club in recognition of having climbed the forty-six "official" White Mountain peaks of 4000 feet or more in altitude.

The seeds of this new club were planted more than twenty-five years ago by an article appearing in the December, 1931, issue of Appalachia and written by the late Nathaniel L. Goodrich, librarian of Dartmouth College. Mr. Goodrich observed that perhaps the number "four" has especial meaning for mountaineers as there is a 4000-meter goal in the Alps and 14,000-foot organizations in Colorado and California and that there was much activity in the Adirondacks to climb all the peaks 4000 feet and over. Mr. Goodrich presented a list of thirty-six White Mountain peaks each rising a clear 300 feet above any ridge joining it to a neighbor and wondered if anyone other than himself had climbed all of them. He added that the 300-foot limitation was purely arbitrary and if someone wanted to argue for 200 or 400 feet he would be quite at liberty to do so.

This article attracted the attention of Francis B. Parsons of Winchester, Mass., who then completed the task of climbing all the peaks mentioned, by 1934. Mully Parsons wrote an article for the December, 1949, issue of Appalachia announcing his conquest and offering a list of all the 4000-foot peaks in New England. Along came another interested climber, Walter C. Merrill of Danvers, Mass., who with help from the above-named men compiled a list of fifty-one 4000-foot peaks of New Hampshire. A small group of A.M.C. climbers, by participating in General Outings trips, completed this list; then it was suggested by Edwin Scotcher at a brainstorm meeting of the General Outings Committee that a 4000-Footer Club similar to the Adirondack Forty-Sixer Club be formed. A committee was appointed but did very little until the team of Mully Parsons, Gus Merrill, Barbara Richardson and I took over and started the ball rolling in the early spring of 1957.

On March 22, 1957, a letter was drafted, approved by the committee and sent to Walter H. Phillips, Councillor of Excursions, for presentation to the A.M.C. Council. This letter gave the history of the idea, stated the purpose of the new Club—that of spurring interest in mountain climbing—and described the shoulder patch that had been designed by artist Mark Fowler. Enclosed was the list of fifty-one named 4000-foot peaks. The Council wholeheartedly approved of the idea in principle but rejected the list of mountains, stating that mountains meeting some definite test would be preferable to those merely having names.

In the meantime letters were being exchanged with Grace L. Hudowalski and L. Morgan Porter, well-known members of the Adirondack Mountain Club and the Adirondack Forty-Sixers. Their letters and the information concerning their 4000-foot mountain club were extremely helpful and official thanks are hereby extended to these two mountain climbers. I also corresponded with Nathaniel L. Goodrich but in a letter dated April 16 he excused himself from replying immediately on the ground that he was about to be hospitalized. Another letter came at the end of April and a few days later we learned with great shock and sorrow that Mr. Goodrich had died.

The next move of the 4000-Footer Club committee was to hold a map party at the home of Mully Parsons, complete with the 1955 A.M.C. *White Mountain Guide*, the latest available United States Geological Survey maps, magnifying glasses and refreshments. Here it was decided to use the 200-foot criterion, as of course it made the new list larger than one using a 300-foot rule; also, the committee felt that if a climber conquered all the peaks on such a list he would have been to the top of almost all the 4000-foot peaks except possibly the West Peak of Osceola and the South Peak of Tripyramid. The other high peaks—North Carter, Clay, Franklin, Guyot, Little Haystack, Hight and the South Peak of Moosilauke—do not meet the 200-foot requirement but they do lie on well-traveled trails so offer little difficulty to collectors of mountain peaks. The committee also decided to place Old Speck, a fine Maine peak, on the list. Now, however, Old Speck has been taken out again and the list confined to the White Mountains in New Hampshire.

I appeared before the May meeting of the A.M.C. Council and the criterion submitted was finally accepted. On the very next weekend the General Outings Committee ran a trip to the Pemigewasset Wilderness for the purpose of climbing Mt. Hancock. Forty-seven participated and about forty reached the summit and signed the register buried in the rock cairn. That evening Roderick Gould stated that if we were using the 200-foot criterion then the so-called South Peak of Hancock should be included. We examined the U.S.G.S. map very carefully with magnifying glasses and counted the twenty-foot contour lines; the peaks on our list now numbered forty-six. We were quite pleased that it was the same number of peaks as that of the Adirondack Forty-Sixers. There could very well be other peaks that we have missed, so be sure, if conditions allow, to climb all the high points of a mountain ridge or range. Sandwich Dome, 3993 feet in altitude, could in a resurvey be lifted over the magic figure! If you are a member or will become a member of this new club and another 4000-foot peak is later "discovered" your membership will still be valid, but to avoid conscience pangs climb everything in sight!

The committee that screens prospective members has to rely mostly on the climber's word, but on the application there is space for the names of people you climbed with and for the approximate date of the climb; also, the committee can ask questions!

The official list of the forty-six 4000-foot peaks of New Hampshire is now as follows:

Adams	5,798
Bond	4,714
Bond, West Peak	4,526
Cabot (true summit)	4,170
Cannon	4,077
Carrigain	4,680
Carter Dome	4,843
Carter, Middle	4,458
Carter, South	4,621
Clinton (Pierce)	4,310
Field	4,326
Flume	4,327
Garfield	4,488
Hale	4,077
Hancock	4,403
Hancock, South Peak	4,274
Isolation	4,005
Jackson	4,052
Jefferson	5,715
Kinsman, North	4,275
Kinsman, South	4,363
Lafayette	5,249
Liberty	4,460
Lincoln	5,108
Madison	5,363
Monroe	5,385
Moosilauke	4,810
Moriah	4,041
Osceola	4,326
Osceola, East Peak	4,185
Owl's Head (true summit)	4,023
Passaconaway	4,060
Pleasant	4,761
Tecumseh	4,004
Tom	4,047
Tripyramid, Middle Peak	4,110
Tripyramid, North Peak	4,140
Twin, North	4,769
Twin, South	4,926
Washington	6,288
Waumbek	4,005
Whiteface (true summit)	4,015
Wildcat	4,397
Wildcat "E"	4,041
Willey	4,302
Zealand (true summit)	4,301

Most of these 4000-foot peaks are well covered in the *White Mountain Guide.* Here are directions for the others:

Mt. Cabot. There is no longer any sort of mark at the point where the discontinued Mt. Cabot Trail leaves the Bunnell Notch Trail, but the former (barred by a log), continuing straight up the hillside, with telephone wire, is in good shape. The true summit, wooded, lies 1/3 m. N.W. of the fire-tower. A faint trail descends to a shallow col, where it may be lost; follow the red rags, if any remain.

Mt. Waumbek. Reached from Starr King. Turn L. (E.) from the dilapidated shelter, facing the Presidentials, on the summit of the latter; an old sign indicates the start of the one-time trail to Waumbek. This is now in fair condition, from much usage during 1957.

Mt. Tom. One of the easiest. Take the A-Z Trail to the col between Field and Tom. An old trail, marked by occasional white rags, will be found. This keeps down to the L. (W.) of the ridge for the most part, climbing to the crest only when near the summit—which is not easily identifiable and without much view. A-Z Trail to summit ½ m.

Zealand Mountain. This is wrongly marked, on the A.M.C. Franconia map, as lying just N.W. of where the Zeacliff Trail joins the Twinway. Actually, it is represented by the black triangle shown just to the L. of the letter "Z" in the words "Zealand Ridge". When going W. on the Twinway, from or just beyond the high point whence the trail plunges steeply down to the deep col N.E. of Guyot, turn off N. along the wooded ridge, keeping for ease of travel just W. of the crest. The summit, very hard to identify, lies about 100 yards from the trail, at the point where the ridge breaks off rather steeply to the N. A tree, carved on its W. face with many initials, supposedly marks the spot.

Owl's Head. (So called, although the summit is over a mile N. of the Owl's Head itself.) Overnight at the Franconia Brook Shelter on the Wilderness Trail. (Better bring a tent, as this shelter, much used by fishermen, is likely to be crowded. Strong walkers can make the whole trip in a day, without camping, from the start of the Wilderness Trail at the Kancamagus Highway.) Follow the Franconia Brook and then the Lincoln Brook Trails. Well up on the latter, after crossing Lincoln Brook three times, ascend to the R. by the slide on the W. side of the mountain. From the top of the slide the route, bearing L., has been marked to the crest of the ridge with yellow crayon and a few blazes. The problem then is to find the true summit!

West Bond. Not to be confused with Bondcliff. By far the most difficult of all from the bushwhacking standpoint, although the distance to be covered is relatively short. From the col between Guyot and Bond, on the Bondcliff Trail, go S.W. through the woods to the somewhat higher col between Bond and West Bond. On this stretch parties have tried three different routes, leaving the Bondcliff Trail (1) shortly above the Guyot col, (2) at a level with the West Bond col, and (3) somewhat above the latter, where the woods on Bond are more open. Of these three routes (2) is the worst, and (1) perhaps the best;[1] (3) is not too bad. The hardest going on any of the routes is at the West Bond col itself, where for 100 yards or more the brush is extremely thick, with blowdowns intermixed. The summit consists of an E.-W. ridge with three peaks, of which the first (most easterly) is accepted as the high point. It is a very interesting little rocky outcrop, with a fine view of Bondcliff. Probably only the members of the 4000-Footer Club have been to this summit.[2]

Hancock and South Hancock. The most difficult from the route-finding standpoint. From the Kancamagus Highway take the Hancock Notch Trail to the Cedar Brook Trail and then the latter, crossing the main brook five times. A couple of hundred feet beyond the fifth crossing, before the trail begins to ascend, look for a blazed tree on the right, at the beginning of an old, overgrown logging road. This road, not too easily followed, soon crosses back over the brook and then leads up its south bank, climbing high above it on the N. slopes of South Hancock. For the main peak of Hancock it is necessary to leave this road and descend diagonally downward to the foot of the second of the two large slides on the south face, the Y-slide. (The junction for the beginning of this descent is obscure. There are small blazes and, if the point is missed, eventually the slide itself can be seen. The brookbed should be reached 50 yards or so to the L. (W.) of the apparent foot of the slide, as a low but bushy ridge otherwise intervenes.) The climb up the

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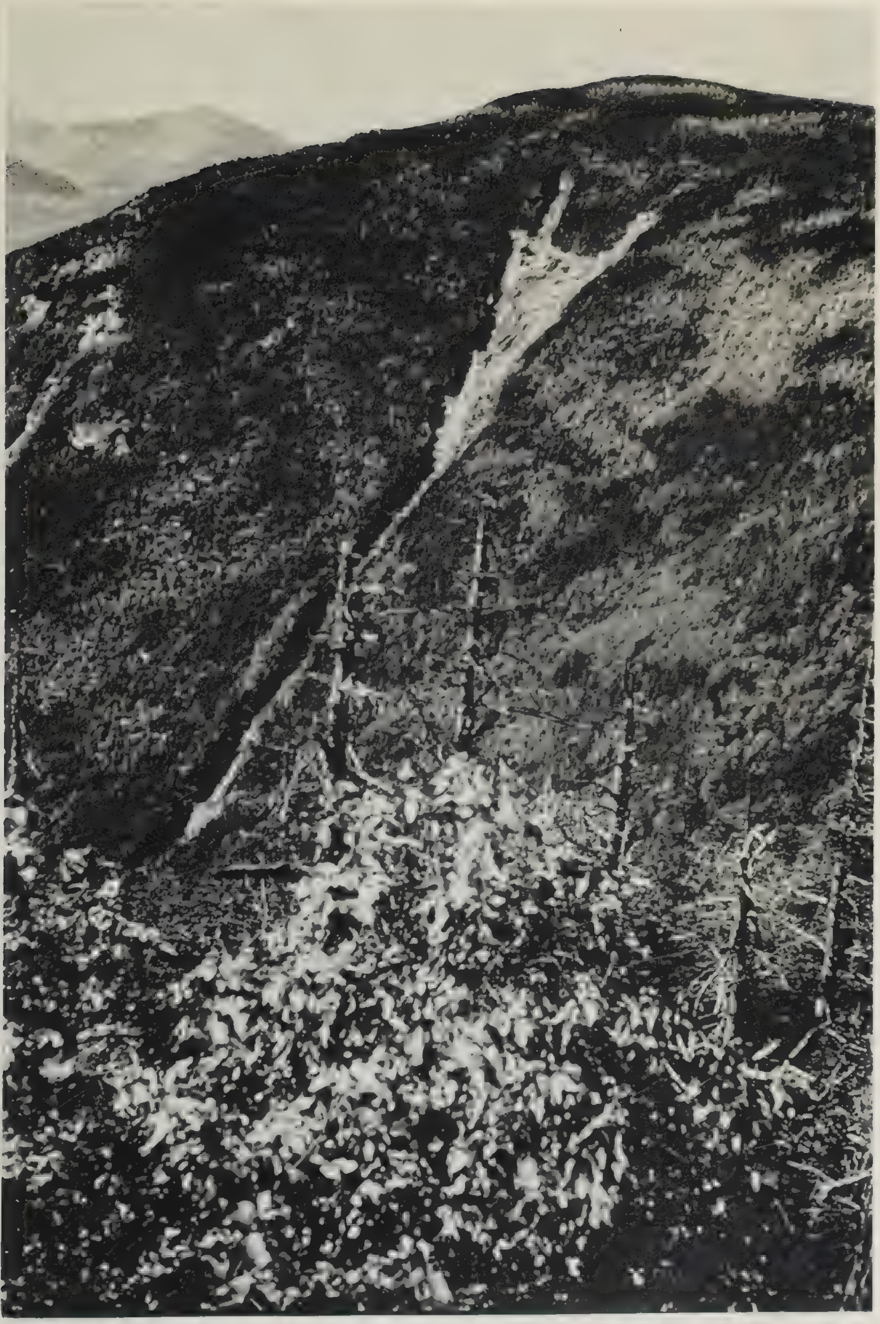
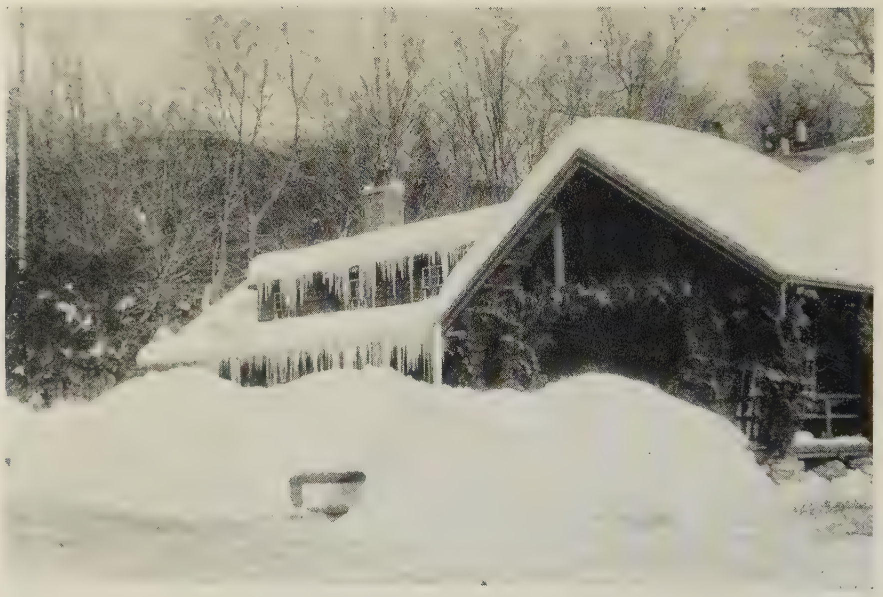
[1] Ralph W. Edwards, of Henniker, N. H., reports favorably of this route.

[2] West Bond can also be approached via the Wilderness and Franconia Brook Trails. Follow the latter to Hellgate Brook; then go up the right side of this brook for about a mile and a half; cross the brook and strike up through open woods, with just a little heavy going, to the ridge. Allow for a 12-hour day for the round trip from the Franconia Brook Shelter.



Brian Underhill

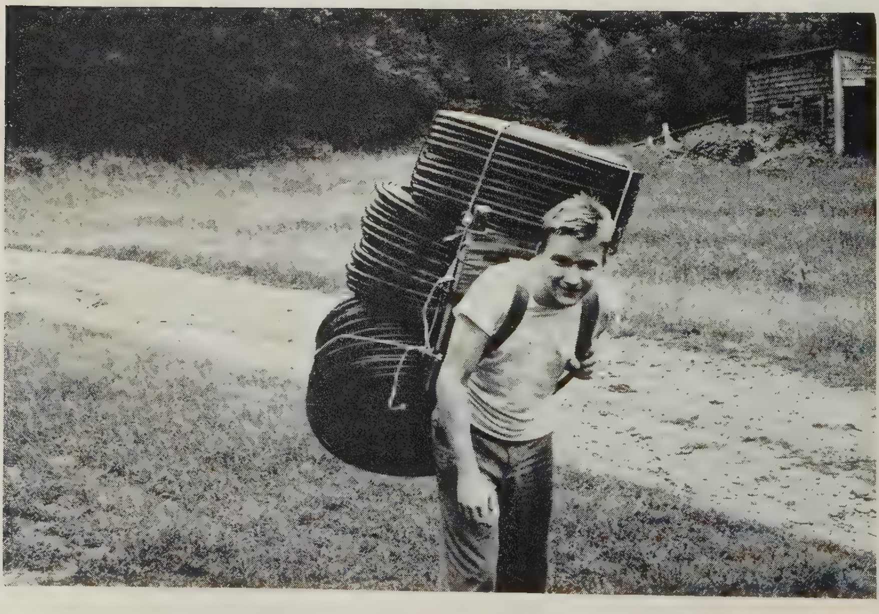
THE GREAT ARROW SLIDE ON MOUNT HANCOCK



Miriam Underhill

PINKHAM NOTCH CAMP IN FEBRUARY, 1958

(See page 118)



CHRIS GOETZE PACKS WATERPIPE TO CRAG CAMP

(See page 119)

slide is long and steep, and is not recommended for wet weather. Especial care must be used not to dislodge rocks upon persons below, and in any case parties should keep close together. The best footing is probably along the right edge, up to where the slide divides. Here take the L. fork, and somewhat higher the R. prong of this fork. At the top of the slide a trail has been broken out in rudimentary fashion up through the thick brush to the ridge and then a bit R. to the summit, where a register will be found in the cairn.

For South Hancock, continue ahead on the logging road first mentioned until about opposite the Y-slide on Hancock and then turn R. (S.) directly uphill. There is a faint trodden way and the climb is easy, as the elevation to be made is only 1000 feet and the woods are fairly open. A register will be found attached to a tree on the summit, and a short cleared trail leads down S. to an interesting viewpoint.

South Hancock has been reached by following the ridge around from Hancock, but the beginning of this route is for rugged climbers only, because of the very heavy growth on the summit of Hancock.

Albert S. Robertson

A Route to South Hancock. Last summer Alexander Lincoln, Jr., and I ascended the main peak of Hancock by the usual route of the large south slide. From here we reached South Hancock by following the crest of the ridge that connects it to the main summit, going over various small peaks on the way. From near the top of Hancock it is possible to see the route to be followed. The first 50 yards are through small dense evergreens and considerable exertion is required. Soon, however, the trees become larger and the walking correspondingly less difficult. After skirting a small blowdown, we entered an area where the trees are of considerable size, making the route easy and attractive for the rest of the way. There are enough views of South Hancock so that maintaining the correct direction is no problem.

After reaching the peak, we descended to the east, since we had started from Livermore. The terrain here was steep and rough with some ledges to be skirted. It is undoubtedly easier to descend to the North Fork.

Frederic L. Steele

Four-Thousand-Footer Club: Additional Members. As of 1948, Mr. and Mrs. J. Daniel McKenzie. As of January 1, 1958, Walter H. Stockmayer.

Mr. and Mrs. McKenzie of Middletown, Conn., members of the Connecticut Chapter, easily hold the record for climbs of the 4000-footers of New England and New York. Describing their remarkable performance, Mr. McKenzie writes:

> In 1948 Mrs. McKenzie and I inaugurated the first of what we call our honeymoon adventures, the basic ingredients for which are four or more weeks' vacation together, a well-planned objective, a minimum of company and a maximum of distance from school and business. That year we proposed to climb all the 4000-footers in New York, Vermont and New Hampshire.[1] The summer before we had

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[1] It was not the first time for most of the New Hampshire peaks. All but a short dozen of them had already been climbed, in 1944 or 1947.

climbed at Katahdin and over the mountains of western Maine, from Little Bigelow to Old Speck, including one 4000-footer the Maine people did not know they had.

We arrived from Vermont at the D.O.C. Ravine Camp on a rainy day in late June. The next morning we climbed to the summit of Moosilauke, ate our lunch in the summit camp, out of the snowstorm which blew up briefly, and made the difficult bush up Mt. Blue and the rather useless Mt. Jim on our way down the Beaver Brook Trail to Kinsman Notch. Here our car was brought around from the Ravine Camp by prearrangement and here we learned that the big slide in Franconia Notch the day before had completely blocked the road. So, the following day, we took the road to the west of the Kinsman Range around to the parking area at the Aerial Tramway. Leaving the car where it could easily be found by the hut boys, we climbed Cannon Mountain and the Cannon Balls, arriving at Lonesome Lake Hut just as the boys were opening for business.

Staying over here a day we climbed Kinsman, both North and South Peaks. The next day there was an early start down to the Flume and the Flume Slide Trail, followed by a trip over Flume, Liberty, Haystack, Lincoln and Lafayette. At the Greenleaf Hut we made arrangements with the hutmaster to have our car driven around to Pinkham on his next day off. The following day saw us negotiating the long Lincoln slide down toward Lincoln Brook. After an easy bush to the summit of Owl's Head, and lunch farther south on the Head itself, we returned to the hut for dinner.

Then followed the leisurely trip over Garfield to the Galehead Hut and an extra day there while we traversed South Twin, over to North Twin, down and up to Mt. Hale with its firetower, and back over both Twins to Galehead. The next day we took in Guyot, Bond and an unnamed summit we called Bond West, a nasty though rewarding little busher. We spent a lot of time looking in the bush for the summit of Zealand Mountain. Our map showed a 4301-footer adjacent to the trail and, if that is said summit, we were on it.

After an overnight at the Zealand Falls Hut we bushed up Mt. Tom and then traversed Field and Willey, arriving at the Willey Cabins in time to pick up our reservation. That night the heavens opened and morning heralded the kind of day in which only the more experienced should venture above timberline. After slithering up the Webster cliffs we met the A.M.C. trail crew loyally performing their appointed tasks despite a cold driving rain. At Mizpah Spring Shelter we stopped only long enough to put on the long wool underwear we always carry in the mountains and just about everything else we had in the way of clothing. It was obvious we were in for it if we traveled above timberline. Thus over Jackson, Clinton, to the summit of Pleasant, then over Franklin and Monroe. At dinner that night the Lakes of the Clouds Hut looked like an Indian reservation; practically all were wrapped in blankets, and some had mighty little underneath!

But the storm was over and the view from Washington the next morning was excellent. It was a beautiful trip over the summits of Clay, Jefferson with its two distinct peaks, aside to Sam Adams, then over Adams and finally John Quincy Adams.

The following day there was a leisurely trip over Mt. Madison and down to Dolly Copp Campground, with a lift into Gorham. There would be no eating establishments open as early in the morning as we wanted to leave, so some milk and a sandwich were obtained that night.

We knew by experience that the trip over the Carter-Moriah Trail was a long one. So we were on the trail at about five in the morning. Moriah, lunch at the Imp Shelter, North Carter, a bush up Lethe and then Middle Carter, South Carter, Hight and Carter Dome. We made the hut for supper, too.

Wildcat A and Wildcat E were just a stroll the next day, but we were sure glad to reach Pinkham. Here we spent three perfect days, climbing Boott Spur and driving north to climb Cabot and the Starr King–Waumbek combination.

At this point we had climbed 45 peaks in 18 days and we were right on schedule. In fact, we still had two days' leeway to rest in. We now had to go over to the Adirondacks for the harder part of the plan: climbing the Adirondack 46 in one sustained trip. Our condition was superb. We drove over to Adirondack Loj, and after purchasing food and supplies, commenced our climb there on July 16 and completed the 46 on August 7, exactly 23 days. Counting the five Vermont 4000-footers, we had climbed 96 peaks in 48 days, right on the schedule worked out months in advance.

Now we had a bit over a week to spare until friends arrived from Washington, D. C., and Connecticut. So we drove back to New Hampshire, camped at the Passaconaway Forest Camp, and added a small mountain tent to our packboards and overnight camping gear. With a week's supply of food we high-tailed it north past Sawyer Pond and up Carrigain. From here began the often difficult bush over the Hancock peaks. This little mountain has three peaks and some of the worst blowdowns in the White Mountains. We made only Hancock East that day. There was no water except in our canteens and the col was tinder dry, no place for a fire. When bushwhacking, we always carry several meals which may enjoyably be eaten cold, to be used in just such a place.

During the night it started to rain. This solved our thirst problem but it did not make traveling easier. However, before noon we had worked our way up the ridge between Hancock and Hancock South and in a blinding downpour we reached the summit proper. We did not consider it prudent to go down the slide in that rain, so pushed our way up Hancock South and then worked down to the Hancock Notch Trail and, with the rain letting up, camped farther north. The next day we enjoyed the stiff but glorious climb up the Cliffs of Bond. After collecting the clothes we had left out to dry we headed south for the Greeley Ponds Forest Camp.

From here the climb up Osceola the next day was rather difficult but the way over to Osceola West was easy. Then back to Bread Tray Ridge, down to the road and up over Tecumseh. We camped that night down by the brook.

Having climbed Sandwich Dome a previous year, we spent our final day in the southern area climbing Tripyramid slide and traveling over the three summits, the Sleepers, Whiteface and Passaconaway. The Oliverian Brook Trail led us down to our car.

But we had one more climb to make. With friends to take our car around to Glen Ellis Falls, we made the long ascent up the Davis Path until we reached the high point on the Montalban Ridge, and bushed to the summit called (I believe) Slide Peak. Then down the Glen Boulder Trail to our waiting car. This is a long trip!

J. DANIEL MCKENZIE

SKIING

We began the avalanche studies in Tuckerman Ravine the first of the year. This spring we are confining the work to collecting and studying data, and forecasting avalanche danger. Following is a record of avalanche occurrence to date:

> January 9, 1958. Tuckerman Ravine. Medium-size avalanche. Type, soft slab. Fractured on left and center of headwall. Old snow surface at time was breakable crust and wind-packed powder. Triggered by change in temperature. Storm from previous day of 10" snowfall, with critical wind forming slab on lee slopes. Terminus, west end Connection.
>
> February 7. Tuckerman Ravine. Major avalanche. Type, soft slab (dry). Fractured on center and right of headwall. Triggered by radical temperature change. Terminus, west end Connection.
>
> February 8. Little Headwall. Small slide. Type, soft slab. Fractured on right. Triggered by hikers. Terminus, halfway down Little Headwall.
>
> February 9. Gulf of Slides. Major size. Type, soft slab. On biggest slide path at end of ski trail. Triggered by temperature change. Terminus, 4 chains beyond ski trail.
>
> February 25. Tuckerman Ravine. Major size. Type, soft slab (dry), very fast moving. Fractured on left, center and right beneath outcropping of rocks. Fractured on lip (unusual). Snow from previous day of 10", with critical wind, formed slab on lee slopes; this snow was involved in avalanche. Terminus, below Connection.
>
> March 7. Tuckerman Ravine. Major, soft-slab avalanche. Fracture line 75 feet below lip and across headwall to chute. Terminus, 100 feet west of Connection.
>
> March 22. Medium-size avalanche on lower snowfields. Fracture line across top under rock line.

At the request of the Mt. Washington Ski Patrol, Leavitt Bowie and I, who received the avalanche and snow ranger training last year at Alta, will give them some instruction on the practical aspects of avalanche hazards as related to ski mountaineering. In addition, they will assist us in the avalanche work in Tuckerman Ravine to gain some practical experience.

RICHARD S. GOODRICH, *District Forest Ranger*

In the Eastern Interclub Ski League the A.M.C., sparked by the great enthusiasm of Sandy Saunders, newly-elected recording secretary of the Club, had a very successful racing season. This organization, composed of between twenty-five and thirty ski clubs in New England, exists for the advancement of skiing through racing, ski instruction, first-aid courses, and sociability. The A.M.C. has belonged to the league for several years, but this is the first season in which we have had much success in the racing program. We participated in three slalom or giant-slalom races, at Intervale Slope and at Pleasant Mountain, Bridgton, Maine.

Team Results of the series of three races:

Men's Class A: A.M.C. 7th out of 21 clubs.
Men's Class B: A.M.C. 2nd out of 21 clubs.
Women's Class: A.M.C. 8th out of 21 clubs.

The team did best in the final races at Bridgton, on March 9, when we were 4th in Men's A, 1st in Men's B, and 2nd in the Women's divisions. In this race the Club had two men tie for 1st in the Men's B Class, and two girls tie for 1st in their division.

An A.M.C. girl, Debby Davis, was the leading girl racer for the entire season, and Doc Phillips placed 3rd in the Men's Class A division.

This racing is informal, although carried out with a degree of organization, and the competition is not severe. Many more Club members who enjoy slalom racing will be welcomed by this group, as the size of the teams is not limited, the best three runs being counted. Watch next winter's *Bulletins* for dates and details.

A.M.C. Junior Championships. Sunday, February 2, 1958. This year the largest number of contestants ever (about thirty-five) entered these championships, held in the snowstorm which any ski race at Cardigan always seems to attract. The caliber of the racers was also higher than for most races in the past, showing the results of the great interest in junior skiing in the Club. A feature of this year's meet was the "midget class" composed of children eight years of age or younger. The results follow.

MIDGET RACE

Boys	*Girls*
1. Archie Acton	1. Ellen Davis
2. Steve Brown	2. Carol Blanchard
3. Gus Reed	3. Joan Blanchard

JUNIOR DIVISION (ages 9-12)

Boys		*Girls*	
1. Scotty Smith	24.6 sec.	1. Elizabeth Bartelink	27.2 sec.
2. Sam Newbury	24.8	2. Jacquie Webster	27.3
3. Brad Butman	26.8	3. Kathy Porter	28.2
		4. Marcia Butman	28.4
		5. Martha McClintock	31.2

ADVANCED DIVISION (age 13 and up)

Boys		*Girls*	
1. Barrie March	31.8 sec.	1. Deb Davis	33.8 sec.
2. Don Guy	33.3	2. Jane English	35.7
3. Tom Brown	33.5	3. Deb Acton	38.0
4. Winky Davis	33.8	4. Harriet Chadwick	42.8
5. David Faxon	34.3	5. Carolyn Haas	44.2

Joint Meet with Cardigan Mountain School. March 2. A feature of the first Cardigan "Teen-Age Weekend" was the first downhill race held on the Alexandria Trail in several years, with the ski team from the Cardigan Mountain School participating. The course was relatively short (about 1/3 mile), but we hope to have a much longer one next year. Results:

Boys	
1. Whittlesey, C.M.S.	40.7 sec.
2. March, A.M.C.	41.4
3. Wright, A.M.C.	41.7
4. Anderson, C.M.S.	43.0
5. Woods, C.M.S.	43.1

(Total entrants, sixteen.)

Girls	
1. Deb Davis	46.4 sec.
2. Carolyn Haas	55.0
3. Harriet Chadwick	56.0
4. Bebe Archibald	61.0

The family races, started at Cardigan in 1956, have become an annual fixture. This year the outstanding families were the Robert Butmans, the Frank McClintocks and the Mel Osbornes.

Philip A. Davis, Jr.

EXCURSIONS

The N.T.O. group of the A.M.C. has been very active during the past year. We spread our interests throughout the Club from one department to another—the ski trips, 4000-footer trips, the big summer outing, etc. Every weekend usually sees a trip to Wonalancet Cabin of some fifteen or twenty people, who climb, ski or work around the cabin. On one day last April, for instance, a party of us climbed Passaconaway. We started without snowshoes and ended up spending as much time clambering through waist-deep snow from the false summit to the true summit as it had taken us climbing up to the false summit! It was a perfect day—and would have been the only truly cloudless day I've ever seen had it not been for one speck of cloud which disappeared in 45 seconds!

On another day last April, when the woods were closed and only the trail to Tuckerman Ravine open, I led eight climbers to the summit of Washington via the Hillman's Highway ski route. (We obtained permission to do this.) This was a very successful trip, even though we were plagued by bad weather with heavy rain and wind on the summit. It introduced about half a dozen climbers to early spring climbing in the Presidentials.

The middle of last October we ran a college outing club weekend at Dolly Copp Campground. Even with rain or snow practically the whole time, a number of outing clubs—Wheaton, M.I.T., Harvard, Brown—came along. We hope to repeat this weekend meeting this coming fall.

William W. Biddle

ACCIDENTS

Oxford Haramosh Expedition. During August and September of 1957 an expedition sponsored by the Oxford University Mountaineering Club attacked Haramosh (24,270 ft.), south of the Chogo Lungma Glacier in the Karakoram. The expedition was led by Captain H. R. A. Streather, well known to the A.M.C., and consisted as well of David Cox, Bernard Jillott and John Emery from England, Rae Culbert from New Zealand, Scott Hamilton from the United States, and a non-climbing Pakistan surveyor.

The route selected, after reconnaissance, was from the northeast, leading up to the Haramosh-La (pass) on the level of the Haramosh Glacier, some 4000 feet above the Mani basin. It continued across icefalls and a cwm to the col beneath the complex of peaks known as Haramosh II. Base camp near the head of the Mani Glacier was established August 12, and Camps I, II and III were located before two weeks of snowstorms forced withdrawal until August 29. On that day, with only three weeks remaining, all five climbers and six Hunza porters resumed operations. The next week further snow all but buried Culbert and Emery at Camp IV (20,000 ft.) and porters at Camp II (17,500 ft.), while Streather, Jillott and Hamilton, after four days of being snowbound at Camp III (19,000 ft.), had to descend because of shortage of food. In doing so, they dug a snow cave for overnight bivouac, jokingly called "Camp 2½". When they reached Camp IV again only three days remained for Haramosh II and observation of the further approaches to the primary peak.

Streather and Jillott joined Emery and Culbert at Camp IV for this final attempt, while Hamilton remained alone at Camp III, lacking a Hunza for a partner. When the two teams reached their highest point (about 21,500 ft.) they saw that the saddle was four miles long and one mile broad—a complex of snow, ice-cliffs and minor summits,—and that a steep 1000-foot ridge led to the final summit. A formidable obstacle for any team! Before descending, Jillott went another 40 yards to take photographs near an ice cornice. This cracked near its base and slid backwards, and Jillott and Emery were carried some 1000 feet down on to the plateau below. They survived, while the avalanche continued off the north face some two miles down onto the glacier. After Streather and Culbert started to the rescue down over a 60-degree ice slope, there began a four-day ordeal and struggle for safety, from which only two emerged alive, and these two seriously frostbitten.

When Streather and Emery eventually reached Hamilton at Camp III, the three survivors took four days for a normal 10-hour descent off the mountain, at times moving only 200 feet an hour, as Emery had no use of hands. There were more accidents, due to the icefall having opened up, and several bivouacs before the party was reached, near Camp I, by the Hunza porters, who had seen our movements through binoculars. After four more days by horse, foot, stretcher and jeep, the expedition reached Gilgit, and within fourteen days of the frostbite the injured men were in a London hospital. Streather has made a rapid recovery, but Emery has lost all toes and fingers except for thumbs and has been in the hospital for months.

SCOTT D. HAMILTON, JR.

One of our members, Ernest Oikelmus of Boston, was killed on December 1, 1957, while climbing at Innsbruck, Austria. He was studying for the Ph.D. degree at the University of Innsbruck under the veterans' education program after having served for two years in the military intelligence branch of the U.S. army. We have obtained from the Austrian police at Innsbruck, who investigated the case, a copy of their official report, from which we take the following details.

Ernest Oikelmus, with another American, Thomas D. Stubbs from Akron, Ohio, and a young Austrian were on their way up the Hafelekarspitze from the Seegrube. They were using for the ascent the gully beneath the aerial tramway.

"Oikelmus was wearing old American army shoes with smooth, worn-down rubber soles. Although it was pointed out to him that the ascent over snow-covered terrain with such shoes was not advisable, he insisted on making the climb. On the rocks—again despite having been warned—he engaged himself in an extremely difficult passage, and must then have slipped and fallen. Just how the accident occurred the two witnesses could not say, since they only saw Oikelmus' body fly through the air and strike backward upon a point of rock. From there he plunged down into the cirque, where he lay motionless."

The body was recovered and brought back to the Seegrube by a guide and some companions who happened to be there. It was examined by police doctors, who reported that Oikelmus had died at once, having suffered a fracture of the base of the skull.

Accidents in the Alps in 1957. According to *Die Alpen* (February, 1958), 390 persons lost their lives in the Eastern and Western Alps in the course of the past year. "Not all of those who fell were the victims of unforseeable mountain contingencies; many enthusiasts met their death 'because of their rashness and their ambition, together with irresponsibility and inexperience', as one critic comments. How many were inadequately equipped, poorly shod, or victims of their mountaineering incompetence?"

Der Bergsteiger (January, 1958) gives the total as 385 and distributes the cases as follows: 43 in the German Alps, 111 in Switzerland, 42 in France, 109 in Austria, and 80 in Italy. "Guides and rescue organizations lay the blame for the high percentage of fatal accidents above all upon the very unfavorable weather conditions in August, which brought unexpected cold spells and snowstorms—but also upon the 'street-shoe breed' of climbers. The victims were often ignorant of the mountains, poorly equipped, unacquainted with weather conditions, and not in the best physical shape."

HUTS, CAMPS AND TRAILS

The Lakes-of-the-Clouds Hut was broken into three times last fall and considerable damage done on each occasion. We had closed the hut at the normal time in mid-September, locking up everything except the winter room which is always left open. In every hut we leave a section unlocked—generally the kitchen—for refuge only. We don't intend to make these places comfortable camps but they'll serve to get a person inside where he'll be protected against severe conditions.

The first break was on the Armistice weekend. A party of six college students, two each from M.I.T., Wellesley and Bates, started up Boott Spur, intending to make a circuit around by the Glen Boulder Trail and so back to Pinkham. But one of the girls got tired and one of the boys volunteered to go back down with her. It turned out that she couldn't make it, he came down for help, and our boys got this girl off the hill about 2.30 in the morning.

The other four kept on to the Lakes and when they got there the weather was fairly bad—not too severe, but severe enough for early November. They didn't make any particular attempt to find the unlocked door, which has a big cloth sign on it, but broke a window, went in, helped themselves to mattresses and made a general mess of things. The next day they came down through the Ravine and notified us by the emergency telephone from the Tuckerman Ravine Shelter, which relieved us of anxiety, for we had not known where they had gone. They reported that they had broken into the Lakes. Later they gave us a list of the food they had used. The next day George Hamilton and one of the boys from Pinkham here drove up to the summit in the truck and went down to the Lakes to secure things again. They found considerable mess which required the better part of a day to clean up. A lot of dishes had to be washed, mattresses had to be returned to the mattress locker, etc. If all these people had replaced the mattresses and closed up the locker to keep the mice out that would have been one thing, but nobody did. They left all the mattresses exposed to the mice.

The following weekend a group of teen-age boys from Dover, N. H.—very poor campers—broke the same window and made a worse mess than the first crowd. In one night those six boys dirtied 26 cups, 19 bowls and a dozen or so plates. They left everything in the sink, partially-cooked food in the kettles (they had used a whole five-pound package of oatmeal!), and our big copper hot-water tank half-full of water. They used three toilets, which had of course all been drained to keep them from freezing over the winter. They had made no attempt to clean up anything at all. Fortunately for them it was mild weather and none of those things froze, or the damages they paid would have been much higher. We had a little difficulty with these boys because they thought they were going to get away with this—they said they had done no damage at all and had eaten beans which they had taken with them—but when we turned the matter over to the State Police the kids decided that the best thing they could do was to square up.

Then on the 29th of December another gang of six boys from Newton, Mass., 18 or 19 years old, went up from the Base Station side. It was still mild weather the end of December but by the time those kids got to the Lakes they ran into quite a snow squall. They broke a light right next to the one that the other two parties had broken. George had planned to go to the summit on New Year's Day, and secure the Lakes once more, but it snowed seven or eight inches down here. It was the first real snowstorm that did anything for the ground and there was considerable drifting on the road. So he couldn't go, but a couple of boys from the Observatory had volunteered to go down to the Lakes and check up so we knew the Newton boys down there were all right—they had left. It wasn't for another week or ten days before we had good enough weather to get to the summit, and then the boys went up with one of the Army Weasels. At the Lakes George found the same type of situation, not quite so many dishes, but these boys had smashed up numerous benches and tables for firewood which they had chopped on the floor. Their axe had cut up the floor badly. They had used four toilet bowls which were all solidly frozen. The kitchen floor had a dozen or so mattresses on it, right up against the stove and frozen in where they had spilled water and so forth. Then on going around the hut to check on the refuge-room door again—it opened perfectly all right—George found a burning mattress (it had apparently been close to the stove, had caught fire and the boys had dragged it outdoors) right up against the west side of the hut. Kapok burns slowly and this mattress was still smouldering with sparks in it.

We charged these parties for the time of our men in getting up there and cleaning up, and for the cost of repairs which includes the material needed and also the expense of getting it up there. The first crowd paid $93, the second a little over $100, and the last crowd $180 on account of all those toilets and the floor.

It wasn't necessary for any of these three parties to break in. The refuge-room door could have been opened easily at any time and there is a stove and wood in there. In February a party of Harvard Mountaineering Club boys, who came up the Crawford Path in very much worse weather, spent two nights in the refuge room at the Lakes, with their own equipment and food, causing no damage at all, and leaving the place in perfect order. [See under Winter Climbing.—Ed.] They were much more experienced climbers and I guess more grown-up in lots of ways.

In the past we've occasionally had things stolen from the huts; mostly small things, at least since we stopped leaving blankets in the huts over the winter. But this trouble now is just plain vandalism.

It might help eliminate this vandalism to let folks know that we're on the job up here and if they get caught—and they're likely to—they're going to have to pay the damages.

Joseph B. Dodge *(recorded)*

Nearly twenty-three feet (274 inches) of snow has fallen on Pinkham Notch Camp this winter (up to April 17). This is an all-time record. The previous record for thirty years was 223 inches, which occurred during the whole winter season of 1943-44. We can still have more snow this year between now and the fourth of July!

We have never had two consecutive months with over 50 inches of snowfall. This year we have already had three: January, 83 inches; February, 57 inches; March, 61.5 inches; and so far in April we have had 39 inches—just 11 more inches to go to make the fourth consecutive month with more than 50 inches of snowfall!

The average daily snow-cover for the first three months has been: January, 30.7 inches; February, 55.4 inches; March, 60.9 inches. Or an average daily cover for the three months of 49 inches. During these three months we did not have any rain.

An extraordinary thing has been the frequency of coastal storms—fourteen during this period—which have given us copious precipitation, all in the form of snow, here on this windward side of the great physical barrier, the Presidential Range. One storm on March 15 brought 31 inches, and another just one week later 22 inches. This caused much trouble to the highway people as we already had great snow shoulders; they had to bring in extra equipment to push the snow back into the woods. Much less snow has fallen only 20 miles west of us, on the lee side of the range.

On March 23 the snow on the ground contained 20 inches of water, the greatest amount ever recorded here. The previous record was 17 inches in 1934. As of today the water equivalent of the snow is 17.6 inches. If we had a prolonged thaw and warm rain this could really cause some apprehension down-river. In the flood year of 1936, when Hartford was under water for three weeks, the maximum water-content of the snow at Pinkham was 11 inches, but that year we had 23 inches of rain in March. Here at Pinkham the cooks had to use hip boots to get down into the cellar, and when we pumped water out the potatoes and vegetables came along too, making a kind of vegetable stew.

Joseph B. Dodge

Improvements at Crag Camp. We took an organ up to Crag on August 8. Mike Field, the Crag hutkeeper, carried the main unit with the keys, blower and so on, on his packboard, while Chris Goetze and I divided up the case. We weighed it all on the old scales up at Crag, and found that the whole thing weighed about 190 pounds. (It's always better to know how much you are carrying after you get up there, rather than before you start.) It took us three and a half hours to pack it up. We put it together with the tools which were lying around. Mike's family, who brought it over to Randolph, had to take the thing apart to get it into the station wagon, so they just took a screwdriver and ripped it into a lot of pieces. We had to figure out how to get it back together again. It's amazing though, how many people who come to Crag can just sit down at the organ and run off some things.

Jeff Belcher and John Allen, as it happened, got their organ up to Zealand on exactly the same day, only I think ours was put together just a little earlier than theirs! There are quite a few of these old organs around, so a lot of them are bound to get carried up to huts sometime.

Rolf Goetze had got some plastic pipe at a bargain the year before, so early in July Chris carried it up to Crag. He started out with all three rolls, 1200 feet of pipe, but got tired at Coldbrook Fall and dumped one of the rolls. He went back for it the next day while Mike and I were installing the rest—in 38° weather, which is a bit cool for working in water. We laid it right on top of the ground where the old pipe was, along the old Spur Trail which runs about parallel to the trail between Crag and Gray Knob and slightly below it. In fact, in the winter a lot of people, when they go to get water, bushwhack along the old pipeline to the spring. When they get there and find they're only fifty feet from the trail they're pretty faked out at having done a quarter of a mile of bushwhacking for nothing. And then they all write in the log-book that you can get to the spring along the trail, not bushwhacking, but of course nobody looks in the log-book before he goes looking for water, so they have to find out for themselves.

Quite a while ago somebody had put in a ⅜-inch pipe and later a half-inch one, metal pipe which must have been quite a lot of work to carry up. But lately it had been getting hard for the water to get through it, especially at the joints. We had to use a tank and let the water drip into it continuously. But with the new plastic pipe you just turn on the faucet and the water comes roaring out.

If you want a quick route up the wall of King Ravine, you can come up the slide which goes straight down from Crag. The slide goes as far as the brook and the King Ravine Trail comes up along the brook. The top of the slide is almost right below Crag, just a few hundred feet away. You can throw cans at it and hit it with no trouble at all. We used to rope off down there into the heaps of cans. From Crag to the top of the slide there are two routes, the Scenic Route through a lot of caves and thick trees and the other, the Truck Route, for people with packs on. You can go down one way and up the other and see the sights of the ravine. It does get pretty steep near the top of the slide, steep gravel and dirt that you almost have to cut steps in.

We had quite a bit of the plastic pipe left over, which Mike used later for his shower, about 50 feet below camp. He built a platform that you can stand on, and put up one wall—tar paper nailed between the trees on the trail side. The water comes out at the top through a little shower-head that Mike picked up somewhere. The pipe is black and although it goes under quite a few trees, there are still a lot of places where it lies out in the open. At the end of a warm afternoon the water is warm enough for one person to take a shower. It's right on the edge of the ravine—the shower with the best view in the White Mountains.

BRIAN UNDERHILL *(recorded)*

New England Trail Conference Report of Trail Conditions. Due to the fact that the 1958 annual meeting of the Conference occurred after the publication deadline for the June APPALACHIA, the following trail report is based upon material submitted to the secretary by various trail-maintenance organizations prior to the April 5 meeting. Although the material received is therefore incomplete, it is felt that the following information regarding specific trails may be of value to walkers using New England trails in the 1958 season.

In Rhode Island, walkers should find the trails generally in good condition except the part of the Narragansett Trail south from Long Pond in Hopkinton to old Route 3. Main trails are marked in yellow and approach trails in white. Easy trail access is afforded from Route 165 in three places: at Beach Pond near the Connecticut border; at Mt. Tom, the high point on this route; and at the Appalachian crossing about three miles west of Route 3.

A report on the Appalachian Trial in Maine indicates that extensive hurricane damage between Avery Peak and Little Bigelow has been cleared and the trail repainted. Some work has been done on reclearing the bushy section between East Carry and Pierce Ponds and it is anticipated that this will be completed in 1958. The beaver flowage in Section 19 near Sandy River Ponds has been circumvented, and plans are underway to reclear the Little Wilson Falls area and the north slope of White Cap this season. Although some signs are still to be put up, three major trail locations, in process for several years, were completed in 1957: Bemis Mountain, Penobscot West Branch, and Moxie Bald. On the last named, the trail was relocated via the Firewarden's Trail around the southern end of Moxie Pond. New lean-tos were built at Potaywodjo Spring and East Tote Road.

The Chimney Trail on Tumbledown Mountain in Weld, Maine, which had been obliterated by lumbering operations, has been relocated and marked; however, walkers are warned to be alert, as at many points intersecting lumber roads look more inviting than the yellow-marked trail. The Phillips Exeter Academy Outing Club, which maintains these trails, plans to do additional work this summer on both the Loop and Chimney Trails.

In Massachusetts, the Appalachian Trail is reported to be in good condition, with a new roof on the October Mountain shelter, and the relocation on East Mountain affording good views not offered by the old trail. The Metacomet-Monadnock Trail on the ridges paralleling the Connecticut River is in excellent condition to Mt. Grace, and it is expected that exploration northward will be underway this year with the objective of eventually extending the trail to Monadnock.

In New Hampshire, the Appalachian Mountain Club built a new shelter at Ethan Pond in 1957 and reconstructed the Webster Cliff Trail bridge over the Saco River, in addition to the usual program of trail patrol and standardization.

The trails maintained by the Randolph Mountain Club in the area of Randolph and Jefferson, N. H., except for one or two temporarily closed by lumbering operations, are in their usual good condition; as are the trails maintained by the Chatham Trails Association in the Cold River Valley. However, in regard to the latter, a check should be made at the North Chatham post office before starting out on the trail to Big Deer, as active mining operations are being carried out in that area.

Reports on specific trails in the Sandwich Range have been submitted by the Wonalancet Out Door Club, and are as follows. On Paugus, the Mexico Ridge gets little use but is clearly marked with blue paint and can be followed readily by using ordinary care. The preferable route would probably be up either the Kelley or Cabin Trail and then the Lawrence, which is steep and rough but frequently used. It is reported that some trails on Paugus not maintained by the Wonalancet Out Door Club are cleared somewhat erratically, but it is usually safe to depend on the Old Paugus and the Bee Line. On Passaconaway, the Square Ledge Trail is long and very little used, but well marked. The others are regular routes. The trail across the Wonalancet Range was abandoned several years ago because of bad blowdowns.

The Dartmouth Outing Club, which maintains the Appalachian Trail from Pomfret, Vt., to Kinsman Notch, N. H., reports that many of the metal markers put up last year have been torn down. They are planning to paint these areas this year and are also revising their trail guide, which they hope to have ready by summer.

In Vermont, specific information of value to the walker has been received concerning the following sections of the Long Trail. The Mt. Grant, Bloodroot Mountain and Griffith Lake areas are in need of work and are scheduled for attention in 1958. The two miles over the top of Mt. Grant are nearly overgrown with young spruce and fir and the trail is difficult to find in places. Other sections maintained by the Green Mountain National Forest need, and are scheduled for, some clearing in 1958, but are otherwise in good condition. Much of the footing of the trail from Griffith Lake south to Bromley Mountain is wet except in driest weather.

Maintaining trails which can be easily and safely followed through a wilderness area is a never-ending task, due both to the forces of nature and the equally destructive works of man through lumbering, mining, road building, etc. The expense of such maintenance has become an ever-increasing problem; and if expenses continue to rise, adequate trail maintenance will become more and more the responsibility of those who use the footpaths. Both the Maine Appalachian Trail Club and the Appalachian Mountain Club have this year expressed a need for volunteer help, either by individuals or by groups, to work with experienced trail clearers. That this can be a satisfying and enjoyable experience is well-proved by the enthusiastic Connecticut Chapter volunteer group which has helped clear New Hampshire A.M.C. trails for the past two years. The New England Trail Conference will be pleased to refer any willing volunteers to organizations which have requested assistance, with such reference geared to the abilities and inclination of the volunteers, both in regard to desired location and time available for helping.

EDITH M. LIBBY, *Secretary, New England Trail Conference*

HISTORY

Samuel A. Bemis, Lord of the Valley. One day in the early 1830's a tall, well-dressed man alighted from the stagecoach at the door of Abel and Hannah Crawford's Mount Crawford tavern, saying, "I've come from Boston to stay with you for a few days". In 1880 the same man, Samuel A. Bemis, who had become Lord of the Valley, was buried on the hillside overlooking his domain. Between these events lie a half-century of time and many happenings in the life of this man Bemis.

He was born in Vermont in 1790. His father was a soldier in the Revolution. Our Samuel A. Bemis was apprenticed out by his father, Samuel Bemis, to a watchmaker. Following his apprenticeship he became a clerk in a Cornhill watchmaker's shop, in Boston. In time he purchased the business and carried it on. Finding times hard in the 1812-1825 period, he turned from this luxury trade to the profession of dentist. (This was before there was any dental school in the United States; you just started in, as best you could.) His skilled watchmaker's fingers and his active mind enabled him to become one of the top dentists of his time in the country. Boston's first families went to him; New York City folks begged him to come there, even if it was only for part of each year. He charged $200 for a set of false teeth—but then, you could really eat with them. Most sets of this early time were worn for looks only, not for chewing. Though socially sought after, he never married. Plagued by a cough, he made his 1830 trip to the highlands both for the scenery and to see if the high, dry air would help his throat trouble—which it did.

The Doctor's visit of a "few days" at the Crawford tavern was prolonged into quite a stay, and from then on his comings were annual. Some years he spent most of the summer months in the Notch. Strong friendships developed between Bemis and the Crawford family. He became deeply interested in their problems. Then, as now, development of a region took ideas, hard work and money. Dr. Bemis's advice to the Crawfords helped them to meet the wishes of their city guests; in addition, when Abel was in a tight spot in 1839, Bemis loaned him $300. Over the years a series of loans followed. There is no record that any of the money was repaid; neither is there any indication that Dr. Bemis tried to regain it. In due time he did have a mortgage on the Abel Crawford property. In 1851, with both Hannah and Abel dead and the Doctor's loans totaling $5,433.09, he foreclosed. The only Crawford living in the old tavern at this time was the daughter Hannah H., married to Nathaniel Davis, a man of whose business ability Dr. Bemis held no high opinion. The Davis couple moved out, the Crawford era ended and the Bemis era began.

By 1855, when Dr. Bemis became Lord of the Valley, he had reached a very comfortable financial position through his dentistry and through careful real-estate investments in the heart of Boston. He could well afford to retire. His health was never too robust; Boston's damp sea air kept him supplied with a troublesome cough, but up in the hills this cough left him. A decision was made: he would build a real country estate up in his valley and live there most of the year, with a return in mid-winter to Boston's Parker House, which had been his home for a number of years.

In making his plans he turned to English types of architecture; on the library shelves of the Inn Unique stand two volumes covering English designs of houses and farm layouts. In between some of the pages are still the string bookmarks indicating his preferred selections. One engraving is almost exactly duplicated by the Bemis house, which he called his stone villa.

By the end of the 1850's his plans were complete and the work started. He had found a source of granite by the side of Sawyer's River, and from that quarry tons and tons of cut blocks were taken. After the labor of getting them out came a three-mile haul, mostly upgrade, to the spot where the stone villa was to stand. A cellar 60x95 was blasted out. Trees were spotted on his own land for the many thousand feet of lumber for the superstructure of his mansion and the set of farm buildings that were to arise around it. To cut, haul and mill the timber was another major operation. Except for the chimney bricks the stone villa is built of valley materials.

The basement used up a deal more of cut granite blocks than did the visible walls of the house. The eleven chimneys are supported on huge square granite piers; the weight of the middle of the house is borne by ten slender pillars of granite. There is a so-called ghostwalk, under the indented porch; it's some thirty feet long and about five feet wide, with a ceiling of cut granite slabs. All the farm buildings had foundations of granite blocks; none was erected on field stones as was the usual procedure in New England.

These farm buildings were clapboarded and painted, making the completed Bemis country estate something to marvel about. In fact, folks did more than marvel about it; they thought that a man who would spend so much money on such a fine set of buildings just to live among trees and rocks—and alone, just with hired help,—must be something between mighty queer and plumb crazy. The cost ran into thousands of dollars, even though stonemasons' pay was but $3 a day and common labor drew only $1.50.

Ten years elapsed between the beginning of the Bemis building project and the time when it was completed. As soon as Bemis was settled in, he closed the old tavern to the public. For the first time since

Abel Crawford had built his first little cabin, in 1793, the valley offered no hospitality to travelers. People did not like it, and said so. Not only locally; it was stated in at least one Boston newspaper. "Isolated as Dr. S. A. Bemis is, he should welcome invaders—not give them the cold shoulder." The Doctor's attitude was that he had done what he wanted to do, it was *his*, and let the public keep out! And he kept them out.

Not satisfied with owning the 250 acres of the Abel Crawford farm, he extended his holdings far up and down the valley, leaving when he died an estate in the Notch of thousands of acres, his wonderful set of buildings, and the decaying old Crawford tavern and its barns. Had he not knit into his ownership these many acres our Notch might have shared the fate—wholesale lumbering—of others such as Zealand.

Dr. Bemis spent a great deal of time fishing and had a fine outfit, as shown by the receipted bills from the Boston shops where he made his purchases. He tied his own flies. The small ponds that nestle here and there among the central mass of the White Hills greatly interested him. He was always wondering whether these tiny sheets of water, up high and seen by few, had fish in them; if not, could fish live if a colony was placed there? Here is part of a letter to him from Thomas J. Crawford, dated July 18, 1838:

> Dear Sir, Agreeable to your request I have put into the pond on Mt. Washington 15 fine trout the shortest not less than six inches longest 8 inches we started with sixteen, one was hurt in catching and did not live, the rest after they were put into the pond did jump up and catch flies as usual. there were two that carried them to the pond, or was there at the time they were put in. the pond is called lake of the clouds sometimes Blue Pond. I have not yet put any into Saco river this side of the Notch but will soon.

There is also a record of his having had fish put into Dismal Pool, in the Notch below Mt. Willard.

Dr. Bemis was an early member of the Natural History Society in Boston. As he explored the White Mountain area he collected minerals, and he gave to the society a very fine collection of stones which was displayed by them as the Bemis Collection for many years. It has since been broken up as a collection but some of his specimens are still exhibited. Through the years he did a great deal of climbing. One of the early guidebooks credits him with naming more peaks in the White Mountains than any other man. Definitely he did name, in our Notch, Mts. Hope, Resolution, Stairs, Bemis, Frankenstein Cliff and, I would hazard, Mt. Willard. Even after he was seventy he was still climbing and exploring. He left one notation reading, "This day I reached a cave—let it be known as Bemis cave". In his diary at that time he boasts that he climbed to the cave, "not bad for my seventy-year-old legs". This cave is nearly at the top of Mt. Crawford, under a cliff where some amethyst crystals have been found.

Bemis was a great *improver*. Many of his large collection of books have penciled corrections in his handwriting on their margins. Many of his tools have, preserved with them, a second slightly different model duly marked, "Made by SAB, with improvements". At the end of 1839 Daguerre, in France, completed his photographic process, the first known; in February of 1840 Dr. Bemis imported one of the complicated

Daguerre outfits, the first such importation into America. He took his first picture with it in April, 1840—a picture of King's Chapel, Boston; and shortly afterward he went to the highlands and made the first negative of the Old Man of the Mountain—an excellent likeness, even by today's fine standards. Then followed his most ambitious improvements, as he made a complete outfit *à la* Daguerre. It was found with the original, marked "Made by SAB, with improvements". Either one of these two complicated machines fills a space larger than an ordinary steamer trunk. They are now in the Eastman Museum at Rochester, N. Y.

Dr. Bemis carried on the farm with enthusiasm. He subscribed to farm journals, purchased books on animal husbandry, in fact was a very active gentleman-farmer. Employed the year round was the farmer and his hired man; extra help was taken on during the busy seasons. In his large dooryard he planted an apple orchard, and he pruned with care the old Crawford orchard standing on the meadow. A silver medal won by the collection of apples he showed at an exhibit of the Massachusetts Horticultural Society in 1860 was in a locked box of his treasures.

Twelve years passed between his settling in the villa and the time of his death. The first half of this period found him living the life that he had planned, outdoor days spent in fishing, exploring, collecting, entertaining his city friends and showing them the hill country and its wonders.

The last six years were not so happy. His eyesight faded; as he wrote a friend, "I can use my eyes but little—almost no reading, and only one letter can I write a day". His handicap limited his moving about and precluded his winter jaunts to Boston. The S. A. Bemis world grew small and in its center was a lonely old man.

Tufts, the first farmer, had died; the George H. Moreys of Chelsea, Vermont, came to take the Tufts family's places. Mrs. Morey had a girl to help her care not only for the house and the Doctor's guests but for the man with feeble eyesight. George Morey took on more than farm duties as the Doctor grew more unable to attend to his various affairs. The Doctor liked and grew to trust George Morey and put much responsibility on his shoulders. Ultimately he willed him the Notch property.

In 1880 a group of people went up the hill with Dr. Bemis and laid him away in the land that he had made his own. Now a granite shaft marks the spot. It overlooks the valley that he was wedded to, back in 1830.

FLORENCE MOREY

SCIENCE

In the Pamir, the Russian Academy of Sciences has established a station for glaciological studies, in connection with the International Geophysical Year, at an altitude of 16,000 feet on the Fedchenko Glacier in the Academy of Sciences Range. This is one of the highest sites ever chosen for glaciological observations. It will supplement the work previously carried on at the station farther down the glacier at an altitude of 13,500 feet.

In Ellesmere Land in the Canadian Arctic an I.G.Y. station has been established at Hazen Lake not very far from the site of the camp of the Greeley Arctic Expedition of 1882-3 during the First Polar Year, for the study of glaciological and meteorological conditions.

The Alaskan Observation Station at 8300 feet on the McCall Glacier in the Brooks Range of Northern Alaska, which was closed for a time following the death of the leader of the four-man scientific party which occupied it last fall, has now been reopened and will complete its contribution to the International Geophysical Year.

Avalanche control by means of pre-placed mines has been tested in Switzerland by the Swiss Federal Institute for Snow and Avalanche Research at the Weissfluhjoch. The method consists of mining the slope in the fall, at several different points if avalanche conditions constantly recur, and detonating a set of mines whenever dangerous situations appear. This method, first tried during the winter of 1956-7, appears to have advantages over the previous system of using mortar shells or hand grenades because of its greater accuracy, greater effectiveness of the charges employed, and less danger to personnel.

KENNETH A. HENDERSON

Protected Plants in Vermont. In April of last year the state of Vermont passed an act to restrict the taking of certain rare plants. The list includes about a hundred species cited in no particular order so that it is difficult to visualize exactly what is restricted. Some of the plants included are neither rare nor in any danger and a few species not on the list might well have been included. The act makes it illegal to take more than one up-rooted plant or two cuttings from any land other than your own without a signed permit from the owner of the land. The plant or cuttings can be taken for scientific purposes only. Violators may be fined not more than $10.00 for each plant or cutting illegally taken. The intent of the law is good and it should be an effective deterrent to the vicious practice of totally removing colonies of rare plants and selling them to nature lovers to grow in their wild gardens. The serious botanists will probably ignore it but no good botanist would think of taking enough material of a rare plant to endanger a colony although in some cases a single specimen is not enough. Enforcement of the law may prove difficult because in many cases proper identification of the suspect material will be far beyond the capabilities of most law enforcement officers and unless the evidence is properly processed promptly after seizure it will be beyond the help of an expert called into the case.

STUART K. HARRIS

Russia Has a Yeti, Too. According to stories printed in British newspapers in January and February, a Russian scientist, A. G. Pronin, claims to have seen an "abominable snowman" on the Fedchenko Glacier last August, while a member of a scientific expedition to the Pamirs. He made the statement in the Russian paper *Komsomolskaya Pravda*, and later confirmed it when questioned. He said that he first saw the creature at a distance and thought it to be a bear, but then approached "quite close" and made sure that it was neither a bear, a monkey, nor a member of any mountain tribe of men (the region is in fact uninhabited). "It was thickset, with unusually long forearms. It walked on two legs, slightly bent forward. It wore no clothing and its body was covered with thick reddish-grey hair. I could not make out whether it was male or female." It appeared to live in a cave, from which it had just emerged. He was able to observe it for some five to eight minutes, until it disappeared behind a rock. Three days later he saw it again, at the same spot. No other member of the expedition, however, saw it upon either occasion.

It was reported that the Russian government plans to send out a properly organized scientific expedition to the Pamirs, to check on the existence of the *yeti.*

CONSERVATION

The Engle Military Lands Bill, which was stymied by a single vote in the last session of Congress, was signed into law by the President on February 28. This measure requires the approval of Congress for any withdrawal or reservation from the public domain, for military purposes, of areas exceeding 5,000 acres. It also requires compliance with state fish and game laws on all military installations, and sets up procedures looking toward multiple use of such lands, including recreation and wildlife management, where compatible with national security and military operations.

MARJORIE HURD

Conservation Issues in New York. The chief local concern of the New York Chapter is the threat to the Adirondack Forest Preserve in the proposed "Northway", a limited-access, six-lane "defence" road from Albany to the Canada line. An amendment to the State Constitution was pushed through to its first passage at the end of the 1957 session, without hearings or publicity, which would permit building through twenty-five miles of Forest Preserve land (thirty-seven in an air line within the potential preserve or "Blue Line"), from north of Lake George Village to Keesville, taking 440 acres of Forest, cutting into several mountains and plainly visible from the choicest of the high peaks. The Adirondack Mountain Club has spearheaded the opposition and prepared a careful study of the undesirable effects, and of an alternate route nearer Lake Champlain which will take no present State land, have lower altitudes, less ice and snow. This study may be secured from the Secretary of the Adirondack Mountain Club, Gabriels, New York, free for individual copies, at a modest price in quantity. Dispute centers on cost. The ADK judges it will be about the same by both routes, but the advocates of splitting the Adirondacks say the Champlain route will cost more, without presenting detailed figures. It is still difficult to guess the motivation of those who are so eager for cutting up the Forest Preserve, unless it may be an entering wedge for high-power lines, power dams, and other "uses" now forbidden.

This year two other measures have been introduced. One by Mr. Ostrander, who did such good work against Panther Dam, to start at once on the Champlain route, but there is little hope that it will even get reported out of committee. The other is for an amendment to use another Adirondack route, equally undesirable, with the added disadvantage that the new road will lie all over Route 9, the one desirable tourist route through the Adirondacks, which is now being widened. Nothing can be settled in 1958 unless the Champlain route is used to provide immediate construction work, for this requires no amendment. The Adirondack routes, requiring an amendment, must be passed a second time by a Legislature elected after the first passage; this throws the issue into the 1959 session and gives opponents of such a road through the Forest Preserve opportunity to study and argue further.

RUTH GILLETTE HARDY

NATIONAL PARKS AND FORESTS

In Mt. McKinley National Park, facilities for the accommodation of travelers, which have long been a problem for the Service, have now been leased to a concessionaire on a long-term basis. Improvements are planned to take care of the influx of visitors expected with the completion of the Denali Highway and its consequent road connection with the rest of Alaska.

The National Park Service reported an eight-percent increase in visitors for the calender year 1957, reaching a new high of 59,300,000, which is some 4,000,000 more visitors than the Mission 66 estimates had figured for that year. This growth has continued in 1958 with the figures for January showing a nine-and-a-half-percent increase over the same month in 1957. Judging from results to date, the 80,000,000 visitors to the national parks anticipated for 1966 will be reached in 1964, which casts considerable doubt on the adequacy of the Mission 66 program.

KENNETH A. HENDERSON

Climbing Regulations in Grand Teton National Park. Following the publication in APPALACHIA (December, 1957, 546-7) of Adams Carter's note concerning an incident in the Tetons last summer, we have received from the Park Superintendent, Frank R. Oberhansley, much interesting and welcome information. We are glad to hear that this particular incident noted arose from the fact that the ranger with whom Adams Carter had contact was a seasonal ranger not normally assigned to climbing registration duties.

With the permission of Mr. Oberhansley, we are printing excerpts from letters written by him to Adams Carter and Robert L. M. Underhill (author of the editorial comment at the end of Adams Carter's note). Mr. Oberhansley writes (in part): "Of the 1,306,340 visitors to the Grand Teton National Park in 1957, 1,757 engaged in mountain climbing, making successful ascents of various peaks in the park. Serious injuries to four climbers and two fatalities occurred. The experience of these climbers varied from zero to that possessed by some of the best qualified climbers in the world; therefore, the regulations regarding climbing recognize this factor. It is not the intent of the regulations to restrict anyone from climbing, but to assist climbers in making advance plans that will provide a margin of safety as well as an enjoyable trip in the mountains. Rangers are ready and willing to assist climbers in any way possible to make climbing enjoyable and safe. In order for

Keith Martin

THE GRAND TETON FROM THE NORTH

Wood Carving by Mary Ogden Abbott

A.M.C. ALL-PURPOSE CLIMBER'S AID

Sketches by Erwin Raisz

this to be accomplished, however, we must also receive full cooperation from visiting climbers.

"The park rangers in charge of climbing registration are competent and qualified mountaineers and are thoroughly acquainted with all climbing conditions encountered in Grand Teton National Park. They are also members of the Park Rescue Team. Douglas McLaren, Dick Emerson and John Fonda are among our more experienced rangers.

"During the summer months, we employ seasonal personnel to supplement the regular park organization during the period of concentrated visitor activity. We attempt to select and retain the finest young men available who possess the specific skills required in their duties. Our goal is to so indoctrinate and train these seasonal park rangers and naturalists that the highest standards of public service will be met. The avoidance of an officious or offensive attitude and manner by all rangers in the enforcement of park regulations is a firm requirement. We recognize, of course, that this high ideal is not always attained, and when instances of improper attitude or judgment are called to our attention, remedial action is taken to prevent a recurrence.

"I assure you of our cooperative attitude regarding climbing activities by recognized mountaineering groups and the exceptionally well-qualified individual, as well as by the novice climber. We certainly do not wish to "over-regulate" in regard to climbing activities. A variety of possible changes in climbing plans because of weather conditions and other factors may be filed at the time of original registration. We encourage and recommend this advance planning, primarily for the climber's own safety and welfare.

"Experience has shown us that registration arrangements for a special climb or series of climbs either by groups or individuals can best be handled on the spot, just prior to the climb, and each on its individual merit, instead of unlimited 'blanket' climbing authorization to groups or individuals. You will recognize, I am sure, that we must constantly be aware of the current number of climbers on various peaks, and the routes they are following. If, unknown to us, a large party was on a route and then we permitted several additional parties to climb the same route at the same time, a precarious situation might arise.

"I assure you that we attempt to retain a logical view of and grant considerable latitude regarding climbing activities in the park. The strict application of a rule or regulation in all situations is not warranted, of course.

"Adequate ranger coverage of all visitor activities and other park protection requirements does create problems regarding the most efficient distribution and use of the small amount of manpower available. A disproportionate number of rangers are assigned to mountain climbing activities, in comparison with the total number of park visitors to be served. This administrative problem regarding the most efficient use of manpower, equipment and appropriated funds for the benefit of all visitors has no easy solution."

Developments in the White Mountain National Forest. The White Mountains have been an important recreation area for over one hundred years and are increasing in popularity each year. Our counts show that this past summer we had a record number of visitors to the national forest as well as users of the picnic areas, trails and campsites. To attempt to keep pace with this seemingly ever-increasing use of the national forest by people in search of recreation, it was possible this year, due to an increase in appropriations for such purpose by the Congress, to effect a number of improvements in the national forest.

Back Country Improvements. Extensive repairs were made to the Jim Liberty Cabin on Chocorua and the Mountain Pond Cabin. New trailside shelters were constructed at Perkins Notch and on the Piper Trail near the site of the old Camp Penacook. New wells were drilled at Sawyer Rock picnic area and Glen Ellis Falls, neither of which had a water supply. A new well was drilled at the group-camping area at Dolly Copp so that pure water will be available by hand-pump to pre- and post-season campers when the main campground is closed and the main water system disconnected. Another well is at present being drilled to provide pure water at the Dolly Copp picnic area. An extension of the Bethlehem water system, through the cooperation of the town, has been made to the Zealand Campground to replace two water supplies used in the past. The water system at the Waterville Campground was also improved. Much work has been done to get the physical plant of various camping and picnic areas in good condition.

South Pond Bathing Beach. We expect that the bathing beach and picnic area, being constructed at South Pond in Stark, will be open this year.

Zealand Campground. An addition to the Zealand Campground, called the Sugarloaf Campground, will be open for the coming camping season. It is located along the Zealand River about one-half mile south of the old campground, on the west side of the national forest road which runs south towards Zealand Notch. It will be a 21-unit area with no camping permitted between the tentsites. Being off the main highway and affording fine views, this new campground should be quite popular and we hope it will lower the pressure on Zealand.

Kancamagus Highway. There is still a 1.2-mile gap at the height of land to be completed. To make the road safe for modern-day traffic it will also be necessary to do considerable betterment work to the 33.2 miles which have already been constructed, and apply an all-weather type covering to the present gravel surface. The road should be open for restricted through-traffic by the summer of 1959.

Watershed management research. The U. S. Forest Service is charged by Congress with certain research responsibilities. The national forests are important water-producing areas and as we use more water and it becomes scarcer, the forests increase in importance in providing this resource. To determine just what types of forest land-management favor the maximum production of water and what types are best to help control floods under northeastern conditions of climate, topography and soils, the Forest Service has set aside a section of the White Mountain National Forest on the watershed of Hubbard Brook in Ellsworth and Woodstock for watershed-management research. This Hubbard Brook Experimental Forest is a 7,500-acre tract of rugged terrain representative of the timber types, soil and geology of the White Mountains. Within this area are a number of small subwatersheds, all draining into Hubbard Brook, that are suitable for gauging. Stream gauges will be installed on some of these; and rainfall, streamflow and water quality will be measured for several years—the calibration period. Later some of the watersheds will be subjected to a number of different logging practices and types of logging-road construction, while some will be left undisturbed for controls.

We know that logging a watershed will cause some erosion and will affect streamflow, yield and distribution. But what we need to know is how much erosion and changes in streamflow can be expected from different logging practices on areas that have certain soil, topographic and climatic characteristics. With information of this kind in hand, we could weigh the values involved and decide whether to log or not, and if so, how to log.

Various special studies will be made, too, such as: logging road erosion; relationship between snow accumulation and melt, and conditions of the forest cover; effects of certain forestry practices on humus condition, soil structure and freezing.

The research is being conducted by the Northeastern Forest Experiment Station, with headquarters near West Thornton. Its studies are getting underway with the building of an access road, part of which is completed. Three streamflow gauging stations, known as weirs, have already been constructed, and eight or ten more will be built in the future.

GERALD S. WHEELER, *Forest Supervisor, White Mountain National Forest*

ORGANIZATIONS

Alpine Club Centenary. On December 22, 1857, the first of all mountaineering clubs was founded during a dinner held at Ashley's Hotel in Covent Garden, London, and in 1957 the Alpine Club celebrated its Centenary in fitting fashion.

In the course of a very well attended meet at Zermatt in August, the Club entertained a distinguished gathering of Swiss mountaineers and civic representatives as a token of appreciation of a century's hospitality enjoyed in the Alps; and the Club was entertained, in turn, most handsomely at a *raclette* party at Riffelalp. The meet was notable, however, not only for its gastronomy and oratory, for a number of first-rate climbs were made in far from first-rate conditions—but then, as *Die Alpen* commented: "Seilschaften aus solch hervorragenden Alpinisten sind nicht alltäglich!" ("Ropes consisting of such eminent mountaineers are not everyday matters!").

The formal celebrations began on November 5 with the opening by H.R.H. The Duchess of Gloucester of a Centenary Exhibition in the Club Gallery at 74, South Audley Street. The exhibition, which was well attended during the month it was open, included a selection of paintings and photographs of historical interest from the Club's collection; more recent photographs illustrating modern developments in mountaineering in many parts of the world, including a fine group by Bradford Washburn and a Himalayan panel; books from the Club library and records from the archives; and records of early mountaineers together with specimens of the most recent mountaineering hardware including oxygen-breathing equipment used on Everest and Kangchenjunga.

The Annual Dinner, held on November 6 at the Dorchester Hotel, was the largest in the Club's history. The Club entertained many distinguished guests, including representatives of mountaineering clubs from Argentina, Austria, Belgium, Canada, Chile, France, Germany, India, Italy, Japan, Kenya, Netherlands, New Zealand, Norway, South Africa, Switzerland and U.S.A. The U.S.A. was represented by John C. Oberlin of the American Alpine Club, Francis P. Farquhar of the Sierra Club, and F. Solari of the Appalachian Mountain Club, the last-named having a place of privilege immediately opposite Shri Tenzing Norkay, G.M., who proved to be a delightful, if rather shy, companion.

The celebrations culminated in a reception by the President and Lady Hunt held in the Great Hall, Lincoln's Inn. This was attended by some 600 members and their guests and was graced by the presence of Her Majesty Queen Elizabeth and H.R.H. The Duke of Edinburgh.

F. SOLARI

The Mt. Washington Observatory marked its twenty-fifth anniversary last November. When established in November, 1932, it was expected to operate only about a year as a contribution to the Polar Year program, but its usefulness in meteorological research and weather forecasting has been so great that it has been continued and now seems a permanent fixture on the summit. The observatory still derives much of its support from the contributions of its members and contributors, among whom are numbered many from the A.M.C. Much of the expansion of recent years, however, has been due to the special projects carried out for various sponsors. The officers and members of the Observatory are to be congratulated on the fine scientific work so far accomplished, while trampers and climbers on the mountain are much in their debt for the many kindnesses extended and assistance rendered to lost and injured persons.

KENNETH A. HENDERSON

PERSONAL ITEMS

Dr. Charles Franklin Brooks, Professor Emeritus of Meteorology at Harvard, former director of Blue Hill Meteorological Observatory, and president of the Mt. Washington Observatory, died January 8, 1958, at the age of sixty-six. Dr. Brooks had had a deep interest in Club purposes since the beginning of his membership in 1933. His participation in mountain activities of the area was largely through his connection with the Mt. Washington Observatory, which he helped found and of which he became the first president when it was incorporated in 1937. It was under his direction that the program of research in cloud physics was initiated, and continued to the present expanded state, on the mountain. The existence of the observatory through these many years can be very directly related to his tireless personal efforts. The daily weather reports and forecasts, so useful at Pinkham Notch Camp, were sent by his co-operation over the radio circuit from the Harvard Observatory at Milton. Dr. Brooks contributed to APPALACHIA, made many personal trips to Mt. Washington, and appeared frequently before State and other committees concerned with the welfare of the mountains.

ARTHUR E. BENT

MONTALBANIANA

[*August 16, 1887*] HEAR! HEAR!

A Big Scheme on Foot

A Grand Coaching Parade the Coming Saturday

Maplewood, N. H., Aug. 15.–Next Saturday, if the weather is pleasant, a grand coaching parade contest will take place here, which, in gayety and general interest, will eclipse anything that has ever occurred in the mountains. The project is to have every hotel in the mountains, that is willing to do so, join in the parade. The coaches are to be decorated, the standards of each competing house to be displayed, and costumes, music, etc., can be added at pleasure.

The parade bids fair to be a grand event.

[*August 22, 1887*] NOTHING LIKE IT!

Grand Coaching Parade Contest

Handsome Turnouts, Decorative Triumphs, and Throngs of Beauty

Maplewood, N. H., Aug. 20.–"It is the biggest thing that ever occurred in the White Mountains," said a prominent New Yorker today, who has passed a score of summers here.

"I never saw a prettier sight in my life," remarked an eminent representative of Boston culture.

Such sentiments were echoed and re-echoed by every one of the 3,000 delighted spectators who witnessed the grand coaching parade here today. The display was one of surpassing magnificence. Every sort of equipage, from a mammoth tally-ho and six to a pretty little wagonette and two, was represented. The procession included eleven tally-ho coaches, about one hundred and seventy-five horses, and some three hundred and fifty people.

The prizes were three beautiful silk standards, which were awarded as follows:

1. A white standard for the prettiest load of ladies, to the Strawberry Hill House.
2. A red standard for the handsomest turnout, to the Sinclair House.
3. A blue standard for the best success in general decorations, to Hotel Lookoff. . . .

It was a gay company who, seated in and on the various equipages, awaited the signal to move. Youth and beauty held the foremost place on the tops of the dozen tally-hos and in the multifarious other vehicles. Light dresses and bright ribbons added to the charm of the smiling faces. Nearly every house had its distinctive colors, which were worn by its representatives and figured prominently in the decorations of the equipage. Banners, more or less elaborate, were displayed by most of the teams.

Soon after 11 o'clock, headed by the fine Saranac Cornet Band of Littleton, the line moved.

First after the band came the Mount Pleasant House coach, the largest in the mountains. Its six handsome bays were driven by the veteran George Lane, who cracked the same whip which he carried when he drove the first coach to the summit of Mount Washington more than a quarter-century ago. The turnout was, indeed, a pretty one, the coach being richly decked with bunting and banners, and most of the handsome ladies wearing tasty bouquets. . . .

Next came a veritable woodland bower—a bit of forest on wheels. It was the tally-ho from the Forest Hills, decked with the hotel colors, green and yellow, supplied by Franconia's own fields and forests. Goldenrod and maple leaves were the decorations, hung in fantastic festoons by fair fingers. The effect was exceedingly pretty, and was heightened by the appearance of the young and good-looking company on top, all dressed in white. . . .

Next in order came the triumphant Strawberry Hill House tally-ho, its top covered with the champion beauties. Other decorations, too, besides the witchery of feminine loveliness augmented the attractions of the turnout. The coach was prettily trimmed with bunting, goldenrod, and sunflowers. . . .

Nothing could excel the handsome appearance of the next turnout, the Maplewood Cottage tally-ho, with the veteran Rosebrooks in the driver's box.[1] The coach was covered with crimson and blue ornamentation, and the effect was strikingly pretty. The top of the coach contained a bevy of beauties that quickly put the hearts of the gilded youth into a fluttering condition. The lovely ladies were all dressed in white and carried white parasols. . . .

After this came the Sinclair House chariot, the prize turnout. It was drawn by six dashing bays of faultless shape. The chariot, with its gay decorations and the merry May-pole in the center, looked the acme of beauty. It carried a jolly, frolicsome company, and the "wah-who-wah" yell was given with power enough to wake the dead and kill the living. The chariot ladies were notable for their beauty and their costumes. . . .

Next came another triumph of the decorative art, the sumptuously adorned coach of Hotel Lookoff. Their color, blood-orange, was everywhere about their conveyance. Orange paper flowers decked the coach profusely, richly set off by evergreens. Every member of the party wore orange either in necktie, hatband, or ribbons. Never was there prettier spectacle than the coach presented with its load of fair maidens, in simple white dresses and orange trimmings. . . .

After the last team had left the Maplewood the jury of award met in the parlor. A little before one o'clock the music of the returning band was heard, and team after team soon rolled up before the hotel and formed in a picturesque group.

Now occurred one of the prettiest events of the day. On an upper balcony suddenly appeared a beautiful figure of the Goddess of Liberty, represented by Mrs. Morrison of Boston, and remained, amid the applause of the multitude, while the band played patriotic airs.

[Followed the award of prizes.]

Then, with many a cheer and salute, the carriages slowly dispersed, and the First Annual Coaching Parade was over.

Condensed from *Among the Clouds,* dates cited.

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[1] Maplewood, having organized the contest, exhibited without competing.

BOOK REVIEWS

High Arctic. By Mike Banks. London: J. M. Dent & Sons, 1957. 276 pages, frontispiece in color, 16 pages of black and white photographs, 9 maps. 25 shillings.

"The British North Greenland Expedition was nothing if not complicated", says Captain Mike Banks as he plunges with the reader into the necessary preliminary battle of the paperwork; and one's chief impression of the first few chapters is indeed of incredible complexity. The expedition, largest and most ambitious launched by the British for over fifty years, set out in 1951 to make an exploration of Dronning Louise Land in northeast Greenland, and a crossing of the Greenland Icecap, carrying on mapping, seismic and gravity measurements, and other scientific studies. These objectives involved twenty-nine men in the field and more than two years' time. Men and supplies were transported by intricate combinations of chartered Norwegian sealing-boats, RAF aircraft, dog-sledges, skis and, most important, snow-tracked Weasels. The meshing of all these elements plus the setting up of base camp at Britannia Sø and the establishment of a weather station at Northice, an arbitrarily selected spot in the featureless icecap, make an eventful story. The most dramatic episode concerns the famous crash of an RAF aircraft during an airdrop to the station at Northice, followed by a rescue flight from the American airbase at Thule, which successfully found the infinitesimal spot in the vast snow desert, landed, and took off the RAF crewmen, three of whom had been injured in the crash.

The chief difference between Mike Banks' brisk and candid narrative and those of earlier Greenland travelers results from the innovation of the Weasel, with all its infuriating possibilities in the way of mechanical breakdowns, which had to be repaired in the field under almost impossible conditions of snow and drift. The peril of crevasses was a very real one: Banks' own Weasel fell forty feet into one, and only the fact that he and his co-driver wore safety belts, and that their Weasel actually traveled roped to the following vehicle, saved their lives. The Weasel itself could not be hauled up from the crevasse, but enough of the vital gasoline and anti-freeze supplies was rescued to make it possible to rendezvous safely with the other Weasel team. Banks describes very vividly the grueling monotony of their progress across the icecap—nearly three months to cover about 800 miles, making observations every three miles, and living in trailers, which they called "cabooses", pulled by the Weasels. His pungent account of the two long lightless winters in base camp is sparked with humor and refreshingly free of any posing. A rather powerful alcoholic aroma does rise from the pages, but there was certainly little enough in the way of other relaxation in two solid years of expedition life.

The chapters contributed by Angus Erskine on the procuring and training of the sledge dogs (some of whom are now in Antarctica with the British IGY group) are delightful. Divertingly maddening as dogs can be, they offer certain compensations not possessed by internal combustion engines. Adequate maps and pleasant line drawings, as well as photographs, illustrate the narrative. TERRIS MOORE

Gervasutti's Climbs. By Giusto Gervasutti. Translated by Nea Morin and Janet Adam Smith. London: Rupert Hart-Davis, 1957. 201 pages, 15 illustrations. 30 shillings.

This is the translation of the work which first appeared in 1947 under the title of *Scalate nelle Alpi,* shortly after the author was killed in a climbing accident on Mont Blanc du Tacul. It portrays very vividly the development of a mountaineer, a great mountaineer we might add, from his first rather timid but quite successful essays on the Grosse and Kleine Zinnen to the first ascents of some of the great faces of the Alps. Unlike some of his compatriots, Gervasutti was not a specialist in any one region; his climbs ranged from the Eastern Alps to the Dauphiné. Although he climbed in the Thirties, when there was much national rivalry in alpine mountaineering, he was one who climbed for the fun and spiritual uplift it gave him and who climbed as readily in groups of mixed nationality as with his fellow Italians. As a result his accounts have a freshness and spontaneity about them that is all too often absent in many of the stories of the great climbs of the period. One feels that here is a man who is climbing the difficult routes and seeking out new routes for the adventure and sheer enjoyment to be found therein, rather than one who is doing it to win acclaim, national recognition or a gold medal after the summit has been achieved.

The book has a pleasing format with margins not wide but adequate and the type well spaced and very readable. The illustrations are excellent, full-page and bled on three sides to give the maximum area. It is, withal, a pleasant book to read and one which gives a good insight into the mental attitudes of a fine climber, as well as an understanding of what makes a really great one.

KENNETH A. HENDERSON

A Century of Mountaineering, 1857-1957. By Arnold Lunn. London: George Allen & Unwin, 1957. 263 pages, 24 pages of illustrations (8 in color). 25 shillings.

The century is that which began with the foundation of the Alpine Club, and the chief concern of the book is with the great part played by that body in the development of mountaineering. But Sir Arnold Lunn, who has lived for many years in Switzerland, sees the history of the sport as a whole, and he does full justice to the achievements of Continental climbers.

As for the Alpine Club, Sir Arnold is in perhaps a unique position for viewing it, with interest, from both outside and inside. When first proposed for membership he was blackballed because he was a director of a travel agency. Later, after being admitted, he became acquainted with all the great personalities of the day. Thus he is disposed, and qualified, to discuss the club both critically and appreciatively—which he does, with the attitude of appreciation much predominating.

A leading feature of the book is the series of intimate portraits of famous mountaineers, most of whom Sir Arnold has known personally. Candor is our author's *forte,* and some of the heroes (e.g., Whymper, Coolidge) emerge from his treatment minus much of their lustre, while others (e.g., Stephen, Mummery) survive it pretty well, merely assuming a more realistic guise. Most welcome are portraits of such shadowy figures as V. J. E. Ryan, and of great contemporaries like Smythe and Winthrop Young.

There are chapters, and interspersed paragraphs, on mountaineering literature, mountain art, the feeling for mountain beauty, and the motives to mountaineering, all very illuminating, as one would expect.

The book was commissioned and financed by the Swiss Foundation for Alpine Research as a centenary tribute to the Alpine Club and a copy presented to each member of that club. A very handsome gesture indeed! The photographic reproductions, like all those done in Switzerland for this organization (which publishes *The Mountain World*), are magnificent, especially those in color.

ROBERT L. M. UNDERHILL

The First Ascent of Mont Blanc. By T. Graham Brown, F.R.S., and Sir Gavin de Beer, F.R.S. London and New York: Oxford University Press, 1957. 460 pages, 16 pages of illustrations (6 in color), figures. $11.20.

In 1786 Dr. M.-G. Paccard, accompanied by the porter Jacques Balmat, made the first ascent of Mont Blanc, after many others had tried unsuccessfully and not a few had pronounced the project impossible. It was "the most important event in the history of mountaineering", giving to the sport that enormous impetus which resulted in the great triumphs of the 19th century and today.

The climb was Dr. Paccard's, in every way. He had devised the route, one as yet untried by anyone, after many observations to determine its practicability; he led the way on the actual ascent, encouraging his flagging companion; and he reached the summit at first alone. But almost immediately a trio of vain and envious rivals set out to rob him of his laurels, and the mild, unaggressive Paccard allowed them to succeed. These three, who worked together only by accident and as it suited the self-interest of each, were the charlatan M.-T. Bourrit, the eminent but petty-minded Professor H.-B. de Saussure, and the empty-headed, boastful Balmat. Among them they produced, by degrees, a legend which precisely reversed the actual roles of the two climbers: it now became Balmat who had discovered the route, led the way, and reached the summit quite alone. This tale Balmat told with many embellishments, after Dr. Paccard's death, to the gullible Alexandre Dumas the Elder, always on the lookout for a good story; and clothed in Dumas' vivid language it captured the attention of Europe and became the accepted version for over half a century.

Piecemeal discovery of papers revealing Dr. Paccard's real share in the matter began at the end of the 19th century, and by 1913 the truth was pretty well known. Further discussion of the evidence put matters in the proper light and now, with the present book, one may say that the job of rehabilitating Dr. Paccard and reducing Balmat to his true proportions has been definitively accomplished.

The authors are able to bring forward two new pieces of evidence, to serve as capstones for their argument, but the bulk of the book consists of a review and appraisal of all the known documents in the case. A more thorough piece of scholarship can scarcely be imagined. But much the most interesting part of it all is the explanation, in terms of personal attitudes and reactions, of how the false legend arose. The authors have a real flair for scenting out the concealed feelings behind the speech and conduct of their characters, and it is these proffered bits of psychological insight which will chiefly reward the general reader. Unfortunately, such passages are few and short in comparison with the remainder. It is to be feared that many readers, who would be fascinated by the human story that is here developed, will become discouraged by the mass of factual detail and meticulous argument in which it tends to become submerged. Was quite so much of this really necessary, seeing that the case for Dr. Paccard was already wellnigh complete and that no one now advocates the other side? At any rate, let the reader be apprised that he will find here very much to reward him, if he will but persevere.

Robert L. M. Underhill

The Gods Are Angry. By Wilfrid Noyce. Cleveland & New York: World Publishing Co., 1958. 214 pages. $3.75.

What is primarily needed, in order to "make" a mountaineering novel, is some striking incident of climbing—some unfamiliar, imaginative incident which has never actually occurred to date but which is quite within the bounds of possibility and might conceivably occur at any time. Mr. Noyce has devised such an incident, a superlative one involving both the physical and the psychological aspects of climbing at a level of high intensity, and so to my mind his book is a decided success.

The story concerns the attempt of a Himalayan expedition to master an unclimbed and sacred peak. Before the climactic incident referred to there are ructions between the various members of the party and complications with wives, fiancées and girl friends. But it must be admitted that Mr. Noyce's women do not really come to life; he is clearly not much interested in them for their own sakes, but uses their attitudes simply as foils to those of the climbing men. However, the problem of getting women into a mountaineering novel in a way which will give them both an important and a natural role to play has, so far as I know, never yet been solved.

In the course of the story Mr. Noyce puts into the mouths of his characters some very penetrating remarks on the subject of why men climb.

Robert L. M. Underhill

Franklin D. Roosevelt & Conservation, 1911-1945. Two volumes. Compiled and edited by Edgar B. Nixon. Hyde Park, N. Y.: Franklin D. Roosevelt Library, 1957. Vol. I, 1911 to 1937, xiv, 614 pages, frontispiece; Vol. II, 1937 to 1945, 700 pages (incl. 51 pages of index). $9.50.

This is the first documentary publication of the Franklin D. Roosevelt Library. The immense mass of material left to the Government at Roosevelt's death posed many problems; much of it is too ephemeral for publication and in all it covers too wide a range of subjects. Conservation was chosen for the first selections, omitting laws, in print elsewhere, purely formal documents, and the whole topics of non-renewable resources and water-power. What is printed is massive enough, covering

Roosevelt's life-long interest in soil and water, forests and other soil-cover, wildlife, and scenic and wilderness areas, from his election to the New York State Senate until his death. The result is a work for the research student, not the armchair reader, but it makes delightful browsing for lovers of these subjects. Here is the story of the origins of and arguments for the Civilian Conservation Corps, another of the Tennessee Valley Authority and of the unsuccessful efforts to create other river-basin authorities, of the great progress in wildlife protection, and of work for dozens of other aspects of this vast complex of renewable resources. Each letter and article is well annotated on the lines immediately following it; no hunting or page-marking is required. The fifty pages of index are to lead-topics and persons, possibly not detailed enough to minor subjects. For example, there are two interesting letters on Roosevelt's unsuccessful efforts to grow sequoias at Hyde Park and his hope that they will succeed in the Great Smokies, but *sequoia* does not appear in the index. The references in it are also to the numbered documents, not to pages. This is easy enough with letters, most of them less than a page long, but difficult in long speeches or messages of several pages.

The browsing recalls many good causes, hot controversies and lost efforts in which many of our members have been involved over the years. It would be fun to quote at length but it may be more useful to remind these members that it is in the Club Library.

RUTH GILLETTE HARDY

Our Forest Heritage: A History of Forestry and Recreation in New Hampshire. By William Robinson Brown. Concord, N. H.: New Hampshire Historical Society, 1958. 400 pages, 24 pages of illustrations. $5.00.

No labor of love could create a more productive gold-mine of information respecting the timberlands and recreation areas of New Hampshire than this prodigious effort, published posthumously as a lasting tribute to the versatile interests of its author.

William Robinson Brown was secretary and then chairman of the N. H. Forestry and Recreation Commission for forty-three eventful years. During that historical period, when so many "firsts" were scored in the protection and development of the Granite State's natural resources, the author was in the driver's seat.

Following his retirement from the Brown Company in 1944 and from state service in 1952, he organized his lifetime notes and diaries; but, on his death in 1955 at the age of 80, left to his surviving associates the final task of editing the lengthy manuscript for publication. Such contemporaries as Dr. Henry I. Baldwin and Warren F. Hale, both Club members, tackled this assignment with a spirit that will long be appreciated by readers of these memoirs.

With characteristic comprehensiveness, the author started his review with "New England Background: 1614-1880". Thereafter, for eighteen chapters he traces the origin and development of innumerable familiar projects that arose before and during our time but are now taken too much for granted.

The second half, we believe, will be read with greater relish by the majority. It is a series of personal reminiscences stemming from the author's long-time position in charge of the woods operations of the Brown Company in northern New England and Quebec.

Here he writes with the unfettered hand of a workman in his own shop as he describes his start in the lumber, pulp and paper business; his many colorful trips to logging operations, which in the winter of 1900 meant periodic inspections of forty-five logging camps; the towing of log booms across the Rangeleys; the mighty production of the company sawmill when it was operating under pressure of setting a record; the use of steam tractors as early as 1904 for hauling logs; memorable sled-dog races; wild rides astride his favorite Arabian horses; and other unusual activities in which the author was a guiding spirit. We are personally indebted for Chapter 21, a dramatic account of a race between river-drivers riding both the Swift and Dead Diamond Streams through the Dartmouth College Grant "in the old days".

There may be errors here and there in this intensely factual document but its readers will always be grateful that the author took the time and the effort to enlarge upon his notes in permanent prose before he passed along to the tall timber.

Robert S. Monahan

A History of New Hampshire Game and Furbearers. By Helenette Silver. Concord, N. H.: N. H. Fish and Game Dept., 1957. 466 pages, many tables, graphs and photographs. $2.85.

This book has been eagerly awaited for several years by those close to the N. H. Fish and Game Department who knew that Helenette Silver had long been doing research on the project. The wait was certainly worthwhile, as the book far exceeds all expectations. It gives a comprehensive account of New Hampshire's animal and bird life from the earliest days to the present time, and includes information on such diverse subjects as the distribution of the Indian tribes of the State, the economic aspects of hunting and fishing, the evolution of game-wardens into conservation officers, and the predation of dogs upon the herd of whitetail deer. The volume is a virtual encyclopedia of the State's wildlife, yet it is extremely readable for a work containing so many facts and figures.

Mrs. Silver begins by describing primeval New Hampshire and its Indian tribes, then considers colonial days and their effect on game populations. Next she surveys the State itself—its size, its terrain and other environmental factors which have an influence on game and furbearers. She discusses the Fish and Game Department's law-enforcement background and its policies regarding revenue and licenses, and examines the economic aspects of game, game damage and the bounty system. There is a report on refuges, sanctuaries and management areas, with a section on research and management.

The above, together, constitute Part I of the volume. In Part II the small and large game animals, furbearers and important predators are considered in some detail. Here is included everything from moose and bear, marten and opossum, wolves and weasels, to squirrels and hare. Part III surveys the birdlife of the State: upland game birds, shore birds, waterfowl, doves and pigeons. Discussed at length are grouse, quail and heath hen; woodcock, upland plover and sandpipers; ducks, geese and swans; and the passenger pigeon, the mourning dove and many others.

Helenette Silver received recognition for this great achievement when she was presented the annual award of the Northeast Wildlife Society at their conference in Montreal on January 4-7, 1958. Mrs. Silver has the distinction of being the first woman to win this award, which is given for the best piece of biological research completed and published in the preceding year.

The book is certainly a bargain at the low price made possible through the aid of state and federal funds. It is not only interesting for the layman, but an excellent reference source for persons in the field of fish and game research and management.

George T. Hamilton

Treasury of Great Nature Writing. Edited by John Kieran. Garden City: Hanover House, 1957. 640 pages. $4.95.

The sixty selections, dating from the 1700's to the present day, merge the love of nature and the interest in natural history, and demonstrate, in the apt language of the introduction, "the width and breadth and depth of the subject, the many facets for examination, the many beauties for appreciation, and the ever-accumulating facts for pure intellectual enjoyment". Subjects cover a wide range of animal, vegetable and even mineral topics, on land and in the seas. The 200-year time-span provides and accents changes in the styles of writing.

As examples of the sketches presented there might be mentioned: Gilbert White's "Selborne", Charles Darwin on his trip around Tierra del Fuego, Elliott Coues on the burrowing owl, Thomas Barbour's whimsical account of the "glory hole" (i.e. catch-all) of museums, Henry Beston's "Headlong Wave", and a piece by Dallas Lore Sharp that might better have been called "The Humor of Turtle Eggs". Some present-day writers included are Rachel Carson, Guy Murchie, Jr., and Donald Culross Peattie. (One wonders, however, whether the editor is acquainted with *Alaska Bird Trails,* by Herbert Brandt. An excerpt from this book might well have replaced one of the lesser papers.)

For the pure enjoyment of reading choice bits of natural history this collection is worth several times the price. The make-up lends itself admirably to reading while commuting, or while awaiting one's turn in the anteroom of a physician.

Wendell Taber

Amos Jackman. By Daniel Doan. Boston: Beacon Press, 1957. 312 pages. $3.95.

One of the most fascinating features of woods travel is the opportunity to speculate on who once lived above the cellar-holes flanking many trails and who lies buried in the half-forgotten rural cemeteries marking an earlier economy.

An insight into the type of people who settled the hill farms and a description of what they did for a livelihood is provided in this book by one who still recalls the economic and other woes of trying to scratch out a living on an upland farm in New Hampshire.

Although the locale is Grafton County, along the half-cleared slopes draining toward the Connecticut River, much the same story could be written about many other areas in northern New England now traversed only by foot-trails. The interest of walkers in this novel is based on the fact that the section of the Appalachian Trail maintained by the Dartmouth Outing Club between Hanover and Moosilauke passes directly through the countryside described with genuine understanding by Daniel Doan.

One who has read this book and then ventures along the trail will have a new appreciation of the folks who once drove their carriages to church on roads now hardly discernible and passable only to walkers.

Robert S. Monahan

America's National Parks: A Photographic Encyclopedia of Our Magnificent Natural Wonderlands. By Nelson Beecher Keyes. Garden City: Doubleday & Co., 1957. 256 pages, 15 pages in color (33 plates), 494 black and white photographs in text, index, 5 sketch maps. $7.50.

Twenty-nine National Parks in the United States and territories and thirteen in Canada are covered by a brief note of a page or less each, followed by pages crowded with photographs. The note includes some account of the history, chief geographic features and, in some cases, the location and approaches of the park, by regions; the tone is quite uncritical. As the photographs are printed two, three, or even four to a 5½ x 8¼″-page of semi-coated paper, they are not so vivid as they were intended to be; some are beautiful, many are over-familiar, many are cramped. The color work is only fair, though good sources have been used. In designing so expensive a book it would seem preferable either to use better paper and printing and a larger format even at a higher price, or to keep to a smaller number of selected pictures with more descriptive text. The index is sketchy.

Ruth Gillette Hardy

Campsite Finder. By Richard and Jane Hartesveldt. San Martin, Calif.: Naturegraph Publishing Co., 1957. Vol. I, Western U.S.A. and Canada, 128 pages; Vol. II, Eastern U.S.A. and Canada, 80 pages. Vol. I, $1.00; Vol. II, $1.50; combined vols. in cloth, $3.75.

These paper-covered booklets are essentially a directory of automobile campgrounds throughout the U. S. and Canada. In general, information other than the location is omitted or is very sketchy. The information appears to have been compiled largely from oil-company road maps and from material furnished by state publicity agencies. Some of the western campsites in the authors' home state of California are more fully described. About the only comments on eastern locations are an occasional mention of swimming, fishing or trailer accommodations.

Anyone contemplating an extended automobile camping trip would undoubtedly find these books useful as a guide to possible overnight stopping places, or as a list of locations about which additional information might be obtained from local sources.

For the information of New England campers, *Tent Camper's Guide* by Outdoor Publishers, Rocky Hill, Conn., covers New England and New York public camping areas in considerable detail.

C. C. Dodge

BRIEFLY NOTED

Selected Climbs in the Range of Mont Blanc. Edited by E. A. Wrangham. London: Allen & Unwin, 1957. 224 pages. 18 shillings. A guidebook, describing some 100 routes, based on the famous French *Guide Vallot.*

A Dictionary of Mountaineering. By R. G. Collomb. New York: Philosophical Library, 1958. 175 pages. $6.00. Praiseworthy in idea, but mediocre in execution. Very incomplete, while at the same time overburdened with unnecessary items and disquisitions. Often inadequate, or even inaccurate. Intended for use in Britain; not conversant with American usage or adapted to the needs of American climbers.

The Adirondack Winter Mountaineering Manual. Gabriels, N. Y.: Adirondack Mountain Club, 1957. 28 pages. 50 cents. Paragraphs on the hazards of winter climbing in the Adirondacks, on safety rules, on equipment and trip organization, on the responsibilities of the leader and of each member, and on first aid. A description of the Adirondack Mountain Club's winter mountaineering program and of the yearly winter mountaineering school. A most useful pamphlet. Practically everything said is applicable also to the White Mountains.

Adirondack Bibliography: A list of books, pamphlets and periodical articles published through the year 1955. Compiled by the Bibliography Committee of the Adirondack Mountain Club. Gabriels, N. Y.: Adirondack Mountain Club, 1958. 354 pages, map. $10.00. The list contains more than 7,500 items, arranged by broad subjects with many subdivisions, and has a detailed index. Some of the classifications are: history, science, commerce and industry, education, health, religion, life and manners, folklore and literature, recreation. Annotations are given for outstanding entries and location of copies for rare items. It is planned to keep the bibliography up to date by annual lists in *The Ad-i-ron-dac;* the supplement for 1956 has already been thus issued and reprints are available.

The Folklore of Maine. By Horace P. Beck. Philadelphia and New York: Lippincott, 1957. 284 pages. $5.00. In spite of the title, the author has omitted most of inland Maine and his book deals almost entirely with the lore of the coast and offshore islands. Some of this is excellent, but the final chapter on lumbering is less satisfactory. The lack of comparative notes impairs the value of the volume. Many more books will be needed before the folklore of Maine is adequately presented, but some of its range and depth is suggested here.

The Adirondack Forty-Sixers. By Grace L. Hudowalski and others. Albany, N. Y.: Adirondack Forty-Sixers, 1958. 152 pages, 12 pages of illustrations, pen-and-ink sketches, map. $6.50. Historical sketches of the forty-six 4000-foot peaks of the Adirondacks, and an account of the Forty-Sixer Club, including its questionnaire, articles of organization, and a complete roster of its members. Only 200 copies are available to the public. (Obtainable from Miss Dorothy O. Haeusser, 20 Cramond St., Albany, N. Y.)

The Earth for the Layman. By Mark W. Pangborn, Jr. Washington, D. C.: American Geological Institute, 1957, 2nd ed. 68 pages. $1.00.

A list of nearly 1,400 books and pamphlets of popular interest on such topics as geology, minerals, caves, fossils; also regional references. Valuable for anyone wishing to track down information on these aspects, from a juvenile to a fairly advanced level.

Using Wayside Plants. By Nelson Coon. Watertown, Mass.: Eaton Press, 1958, 2nd ed. 254 pages, many line drawings. $3.00.

A unique and in a sense old-fashioned little book; a sort of herbal filled with charming head- and tailpieces, leaf and flower outlines, location sketch maps, as well as factual material organized around such focal points as "Useful Shrubs", "Lichens and Fungi", "Dyeing with Roadside Plants". Not for the person bent on botanizing, but for the outdoor adventurer who notices the world he passes through but needs simple guidelines to help him learn, and hence enjoy, more of it.

Flintlock and Tomahawk. By Douglas Edward Leach. New York: The Macmillan Co., 1958. 304 pages, 4 illustrations, 5 maps, notes, bibliography, index. $6.00.

A readable and sound account of King Philip's War. Though concerned chiefly with the regions of Rhode Island, Connecticut Valley and eastern Massachusetts, interesting references creep in to the upper Merrimack Valley. "Wannalancet, sachem of the Pennacook Indians", following the policy of peace of his father, Passaconaway, "withdrew northward up the river".

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